

Transportation services – ICB 2777  
November, 16<sup>th</sup>, 2016

## COMPANY RESEARCH REPORT Airport Corporation of Vietnam (ACV)



### ACV – FLY HIGH

We recommend **STRONG BUY** for ACV with target prices based on FCFF and EV/EBITDA at VND 26,386 and VND 37,223 per share, respectively. Listed price of ACV is VND 25,000 per share equivalent to EV/EBITDA of 6.75x, much lower than median of aviation firms in region and growth potential of ACV. Revenue is expected to grow at the rate of 11% per annum, net income at the rate of 36%, reaching VND 2,221 billion in 2016 and VND 8,013 billion in 2020.

**ACV manages and operates all 22 civil airports in Vietnam.** ACV has a total design capacity of 77.51 million passengers, served 63.12 million passenger in 2015. For more detail please refer to [2015 ACV report](#).

**Huge revenue, efficient operation, sustainable growth.** Consolidated revenue reached VND 13,173 billion in 2015, CAGR of 18% from 2012 – 2015. Operating margin doubled from 14% in 2015 to 28% in 6 months from 1/4/2016 – 30/09/2016. Both revenue and profit margin of ACV are expected to improve due to high growth of output.

**Sound financial situation.** Strong cash flow potential stems from annual high depreciation. ACV has abundant cash equivalent to VND 17 trillion in Q3 2016, equal to an investment cost for a medium airport. Foreign exchange losses eroded 75% of core net income in 2 quarters, however, cash flow was not affected (foreign exchange losses was VND 1,656 billion in 6 months from 1/4/2016 to 30/09/2016).

**Investment Risk.** (1) high new investment cost for large airports affects cash flow of the firm; (2) operational risk of newly invested airports; (3) foreign currency translation risk from debts denominated in JPY; (4) risk from passenger and cargo overload.

Listing information	
Listed price	25,000
Listing date	21/11/2016
Number of shares (mil.)	2,177
Freefloat	4.6%
Price based on DCF	26,386
EV/EBITDA	37,223

	2012	2013	2014	2015
Revenue (VND bil.)	8,011	9,548	10,555	13,173
% change y-o-y	14%	19%	11%	25%
Total assets (VND bil.)	30,189	34,661	-	44,852
% change y-o-y	35%	15%	26%	2%
Total equity (VND bil.)	14,877	17,068	20,490	20,615
Chartered capital (VND bil.)	6,271	10,611	16,274	17,093
Outstanding shares (mil.)	627	1,061	1,627	1,709
Profit after tax (VND bil.)	1,527	2,297	2,632	1,712
% change y-o-y	75%	50%	15%	-35%
Book value (VND/share)	23,722	16,086	12,590	12,060
Gross profit	20%	22%	29%	27%
ROS	12%	19%	24%	25%
ROE	11%	14%	14%	8%
ROA	6%	7%	7%	4%

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Nguồn: ACV, BSC research

## ACV OVERVIEW

Overview	
English name	Airports corporation of Vietnam
Head quarter	58 Trường Sơn, Phường 2, Tân Bình district, Hồ Chí Minh city
Website	<a href="http://www.vietnamairport.vn">http://www.vietnamairport.vn</a>
Telephone	(84.8)38485383
Fax	
Chartered capital	21,771,732,360,000

Operational areas      Aeronautical services, directly supports aviation sector

No	Subsidiary companies	Giá gốc (tỷ đ)	Ownership
1	Southern Airport Service Company (SAS)	670.65	51.00%
2	NoiBai Aviation Fuel Service Company (NAFSC)	60.00	60.00%

Sources: ACV

Development of ACV	
Year	Event
1975 – 3/1993	Established Civil Aviation Administration of Vietnam
1993 – 6/1998	Established Northern, Central and Southern Regional Airport Authorities, operated under Civil Aviation Administration of Vietnam,
7/1998 - 2006	Changing the status of the Northern, Central and Southern Regional Airport Authority into State-owned, public-utility enterprises
2007 – 3/2012	03 Airport Corporations (Northern, Central and Southern) changes into single member limited liability companies operating under the enterprise law.
2012 – 3/2016	Established Airports Corporation of Vietnam (ACV)
1/4/2016 - present	Operates as Joint-stock company

## Expected ownership structure

No	Owners	Number of shares (Thousand)	Weight (%)
1	The State	2.076.943	95,40
2	Inside Shareholders	22.897	1,05
	- ACV's Union	3.003	0,14
	- Employees	19.894	0,91
3	Outside Shareholders	13.104	0,60
	- Foreign investors	5.604	0,26
	- Domestic investors	7.500	0,34
	Total	2.177.173	100%

Sources: ACV

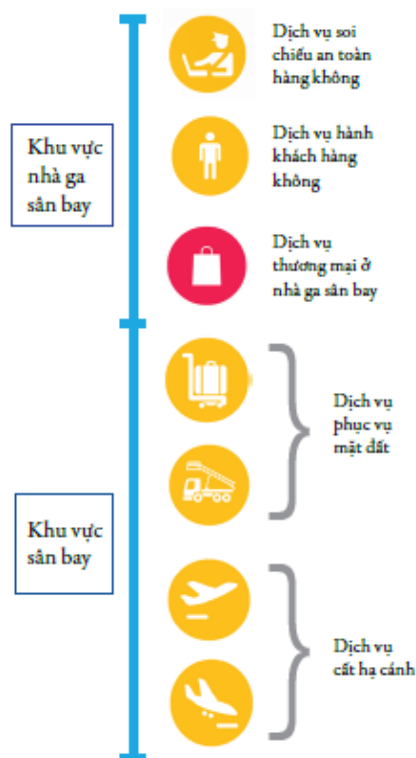
## INVESTMENT HIGHLIGHT

*Target prices of ACV based on FCF and EV/EBITDA are VND 26,386 and VND 37,223 per share, respectively. Listed price of ACV is 25,000 equivalent to 6.75x, much lower than median of aeronautical services in region and growth potential of ACV. Hence, we recommend STRONG BUY for ACV*

- ACV is the only entity manages and operates all 22 civil airports in Vietnam. This is a sector that enjoys high barrier to entry.
- High revenue and fast growth, consolidated total revenue reached VND 13,173 billion in 2015, grew at the rate of 18% per annum from 2012 to 2015
  - Aeronautical services: ranked second in South East Asia in terms of growth, up 37.95% in 2015. Growth correlates with growth of aviation sector: growth of passenger volume, cargo and landing/ take off
  - Non-aeronautical services: high growth potential. Revenue of non-aeronautical/ aeronautical is 0.24x, much lower than 0.86x of regional average.
- Core business is expected to improve, operating margin doubled from 14% in 2015 to 28% in 6 months 1/4/2016 – 30/9/2016, mainly due to high growing revenue.
- Sound financial situation:
  - Strong cash flow. Operating cash flow ranged from VND 2,130 billion to VND 4,213 billion from 2012 to 2015 and stood at VND 1,958 billion in Q3 2016. Abundant cash stood at VND 17 trillion in Q3 2016, equivalent to an investment cost of a medium airport.
  - Large fixed cost, mainly is depreciation (50% of total cost), and repair and maintainance cost (7%). Depreciation of old assets and repair cost declined fast, helped improve ACV profit margin. Main costs are fixed cost, which is easily controlled and forecast. Profit margin is strongly improved if revenue grows.
- Revenue is expected to reach VND 15,793 billion in 2016 and VND 22,404 billion in 2020, CAGR at 11% per annum. Profit after tax for parent company shareholders is expected at VND 2,221 billion in 2016(+30% yoy) and VND 7,961 billion in 2020, CAGR of 36% .
- Investment Risk. (1) high new investment cost for large airports affects cash flow of the firm; (2) operational risk of newly invested airports; (3) foreign exchange risk from debts denominated in JPY (eroded 75% of core profit in Q2 and Q3, however, no impact on firm's cash flow); (4) risk from cargo overload.

## ACV'S CORE BUSINESS OVERVIEW

### ACV's operating activities



Sources: BSC research

Airports Corporation of Vietnam (ACV) is managing and operating all 22 Civil airports nationwide. The total designed capacity is 77.51 million of passengers, including 10 International airports and 11 Domestic airports (Na San Port is not exploited).

Like other airports in the world, ACV's aviation services revenue includes passenger service (59%), landing revenue (16.10%), screening security revenue (5.11%), ground handling revenues (basic/package) (4.65%) and other revenue from aviation services, non-aviation and sales (15.14%).

### Revenues by segment of ACV's parent company

Parent company	2013	2014	2015	6T2016 <sup>1</sup>	CAGR 2013-2015	2016 Rev vs 2015 Rev
<b>Aviation services</b>	<b>6,062</b>	<b>6,410</b>	<b>8,841</b>	<b>5,554</b>	<b>21%</b>	<b>63%</b>
Landing revenue	1,024	1,038	1,423	893	18%	63%
Passenger service	3,344	3,733	5,217	3,376	25%	65%
Ground handling service	765	472	411	187	-27%	46%
Screening security	191	260	452	314	54%	69%
Others	739	907	1,339	784	35%	59%
<b>Non-aviation service</b>	<b>828</b>	<b>924</b>	<b>1,025</b>	<b>628</b>	<b>11%</b>	<b>61%</b>
Retail	635	665	1,096	580	31%	53%
<b>Total</b>	<b>7,526</b>	<b>7,999</b>	<b>10,962</b>	<b>6,762</b>	<b>21%</b>	<b>62%</b>

Sources: ACV, BSC research

### Aviation services chain served by ACV

Aeronautical services	Content	Payment method
Passenger service	Providing terminal, lounge, air bridge ... to passengers	Indirect charge on each departing passenger, included in airline fares
Landing service	Providing runway, taxiway, lighting system and other support systems	Direct charge on each flight of airlines
Ground handling service	Check-in, loading/unloading and carrying luggage/cargo from aircrafts to the terminals or vice versa with specialized facilities and equipment	Direct charge on each flight of airlines, based on the service requirement for each type of aircraft.
Airport security service	Screening passenger, luggage and cargo	Indirect charge on the each passenger or each ton of cargo, included in the airline fares.
Other services	Including aircraft parking service, leasing baggage carousel, leasing representative office for the airlines.	Each particular expense is also prescribed in Decision 1992.

Sources: BSC research

<sup>1</sup> Tính từ 01/04/2016 đến 30/09/2016

## AIRPORT SECTOR

Worldwide, most airports are owned by local authorities or countries, then the private corporation will lease back to manage and exploit. A country can have one or more companies managing airports. In Vietnam, ACV is the only entity manages and operates all 22 civil airports.

According to ACI (Airports Council International) World Report 2016, total sales of the global airport industry reached USD 142.5 billion, in which Aviation revenues accounted for 55.5%, Nonaviation revenue accounted for 40.4% and other revenues was 4.1%.

Compared with airports managing companies in the world, the scale of ACV revenue is relatively small (VND 13 trillion) and has much growth potentials. In 2015, aviation service revenue for the parent company ACV reached VND 8,841 billion, increased by 37.95% yoy, which is the second highest growth rate in Southeast Asia just after Malaysia Airports (+ 41.63%).

ACV's revenue is expected to grow at high rate thanks to (1) IATA predicted that Vietnam will be the country with fastest growth in aviation industry in Asia-Pacific, passenger volume increased at average rate of 7.3% from 2014 to 2034 (derived from the improvement in income per capita and the fastest growth in middle class in Asia, focusing on tourism development); (2) Socializing and strengthening the exploitation of non-aviation services and sales.

### Operation of the airport management firms worldwide

Firms	Nation	Mkt Cap (bn VND)	No. of airport	Revenue T12M (bn VND)	Rev/air port (bn VND)	Net profit margin	EV/EBITDA 12M	P/E	P/B
AENA SA	SPAIN	447,265		91,086		30%	12.30	16.31	3.93
AIRPORTS OF THAILAND PCL	THAILAND	326,019	6	30,881	5,147	0%	15.98	24.34	4.40
SYDNEY AIRPORT	AUSTRALIA	229,307	1	21,062	21,062	55%	22.37	43.83	12.17
ADP	FRANCE	215,293	14	72,053		18%	11.73	22.93	2.22
SHANGHAI INTERNATIONAL AIR-A	CHINA	167,899	2	22,951	11,475	40%	N/A	19.01	2.38
KOBENHAVNS LUFTHAVNE	DENMARK	134,674	2	14,525	7,263	34%	16.70	33.23	14.88
FRAPORT AG FRANKFURT AIRPORT	GERMANY	117,887	5	64,341	12,868	20%	9.20	19.44	1.38
AUCKLAND INTL AIRPORT LTD	NEW ZEALAND	114,699	1	8,171	8,171	83%	22.33	27.44	1.86
GRUPO AEROPORT DEL PACIFIC-B	MEXICO	107,743		13,015		0%	17.34	30.13	4.51
GRUPO AEROPORT DEL SURESTE-B	MEXICO	100,231	9	11,982	1,331	0%	16.42	26.23	4.16
BEIJING CAPITAL INTL AIRPO-H	CHINA	99,568		29,762		34%	8.72	17.70	1.62
SATS LTD	SINGAPORE	87,498	1	27,887	27,887	26%	17.54	23.02	3.62
BBA AVIATION PLC	BRITAIN	74,885	N/A	45,818		5%	12.32	N/A	1.86
GUANGZHOU BAIYUN INTERNATI-A	CHINA	56,738	1	20,296	20,296	30%	N/A	12.60	1.63
MALAYSIA AIRPORTS HLDGS BHD	MALAYSIA	52,707	39	22,355	573	0%	9.64	N/A	1.35
FLUGHAFEN WIEN AG	AUSTRIA	44,629	2	17,497		24%	7.59	11.14	1.64
GRUPO AEROPORTUARIO DEL CENT	MEXICO	44,319		6,493		0%	15.86	23.47	6.60
TAV HAVAILMANLARI HOLDING AS	TURKEY	30,590		24,709		0%	5.50	9.16	1.70
SAVE SPA	ITALY	23,268	1	4,475	4,475	31%	12.87	N/A	4.86
XIAMEN INTERNATIONAL AIR-A	CHINA	23,144	1	5,010	5,010	39%	N/A	17.76	2.19
<b>Median</b>							<b>12.87</b>	<b>22.93</b>	<b>2.3</b>
<b>ACV<sup>2</sup></b>	<b>Vietnam</b>		<b>22</b>	<b>13,173</b>	<b>599</b>	<b>14%</b>			

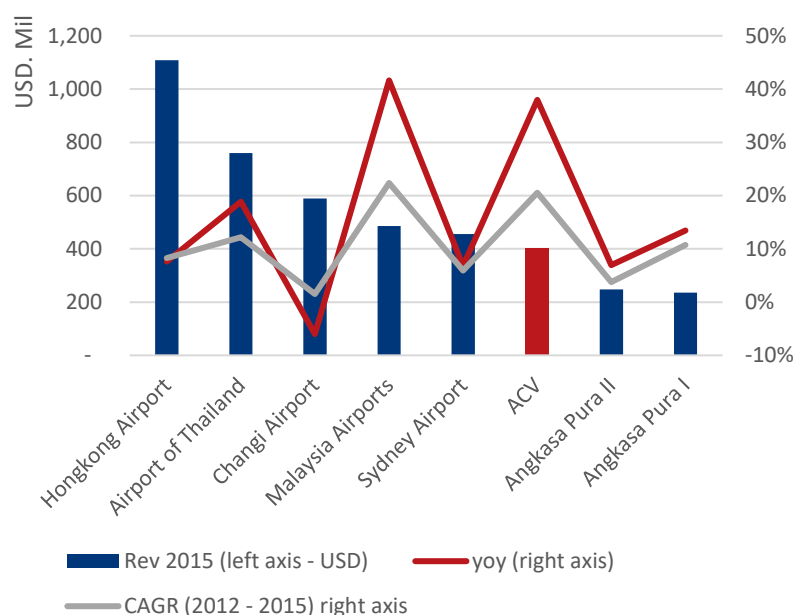
Sources: Bloomberg, BSC research

<sup>2</sup> Số liệu năm 2015

**High passenger growth rate.** Compared with other airport operators in the Southeast Asia, ACV is leading in passenger growth (an average increase of 19% per year from 2012 to 2015), cargo (+14% per year) and scheduled flight traffic (+13% per year). In particular, the growth in Tan Son Nhat and Noi Bai airports were respectively 20% and 21% in 2015.

**Fares for aeronautical services are relatively low compared to other airports in the region.** Passenger services charges are relatively competitive while landing charges and security screening fees are relatively low compared to the region.

Revenue and revenue growth of airport operators in the region

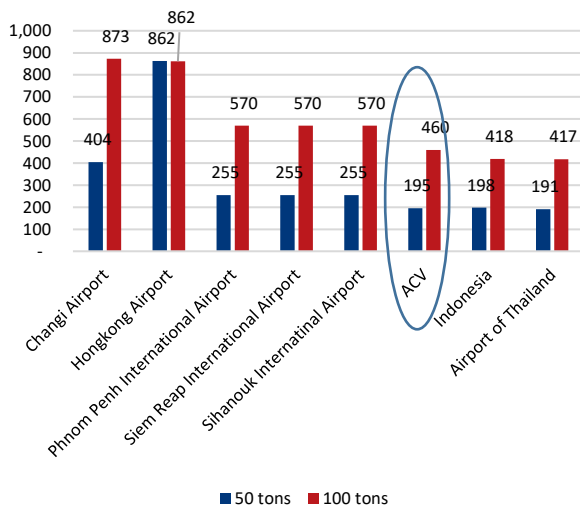


Sources: BSC research

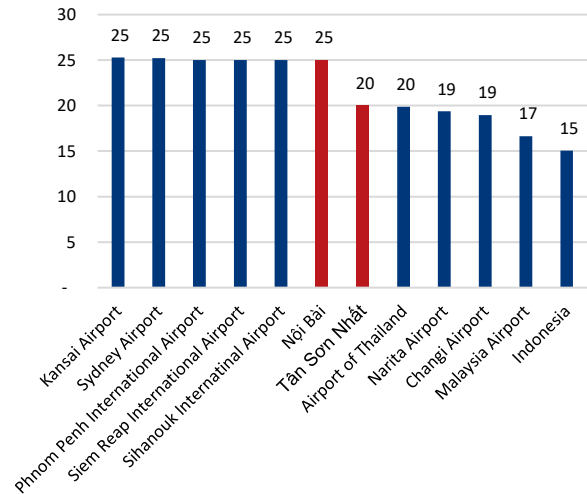
Passenger, cargo volume and traffic flights of Airport firms

Firms	Passenger volume		Cargo volume		Flights	
	2015	CAGR 2012-2015	2015	CAGR 2012-2015	2015	CAGR 2012-2015
Airport of Thailand	106,789,914	14%	1,354,210	-2%	707,362	14%
Angkasa Pura II	84,291,588	1%	726,809	-1%	632,418	1%
Malaysia Airport	83,829,769	5%	974,330	2%	815,340	3%
Angkasa Pura I	73,935,940	4%	324,840	-1%	698,118	3%
Hongkong Airport	69,700,000	7%	4,300,000	2%	410,000	5%
<b>ACV</b>	<b>63,123,510</b>	<b>19%</b>	<b>973,385</b>	<b>14%</b>	<b>448,520</b>	<b>13%</b>
Changi Airport	56,737,315	3%	1,867,784	1%	351,059	2%
Incheon Airport	56,698,060	7%	2,595,677	2%	305,446	6%
Sydney Airport	39,700,000	1%			335,001	3%

Sources: BSC research

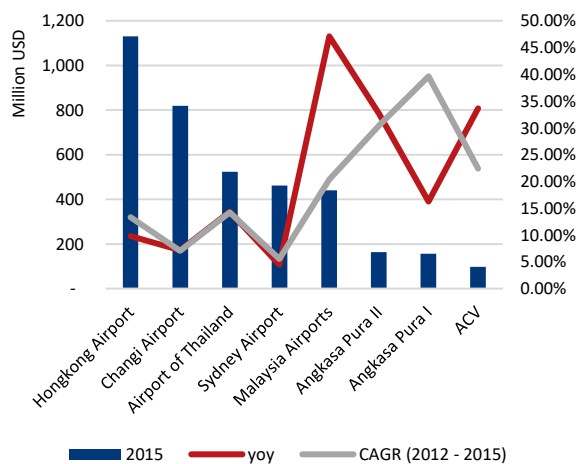
Landing charges (USD)<sup>3</sup>


Passenger service charges

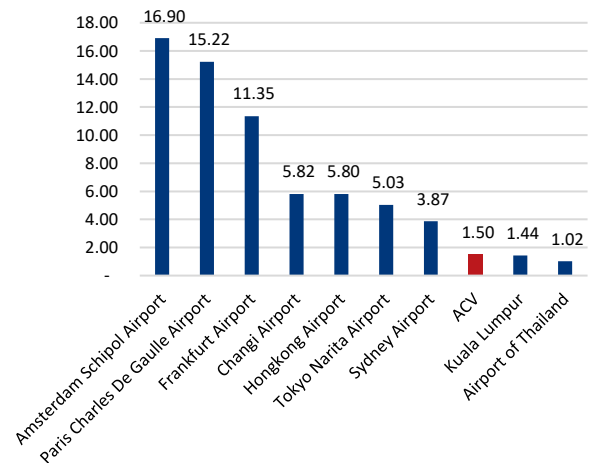


Nguồn: BSC Research,

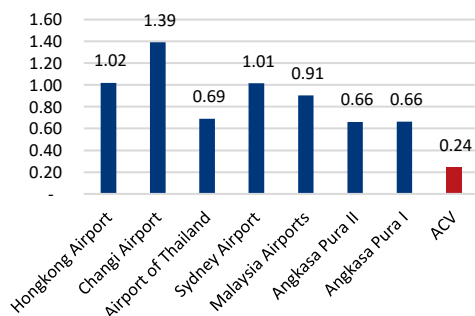
Non-aeronautical revenues (USD)



Security Screening Charge (USD)



Non-aeronautical revenues/aeronautical revenues



Sources: BSC research

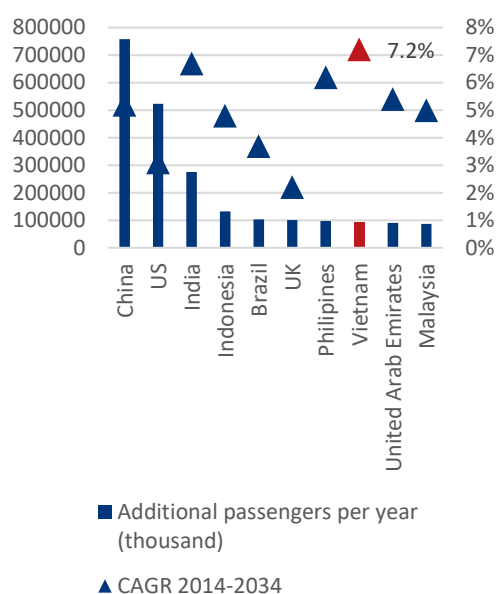
**Non-aeronautical services and retail have more room to grow.**  
Compared to the other airports in the region, Revenue of ACV's Non-aeronautical services and Sales are at the lowest level in terms of scale and proportion in the Revenue of aeronautical services, the average ratio in the region is 0.86, much higher than the current level of ACV of 0.24. Therefore, there will have more chances to improve this business segment, and profitability of the entire company.

<sup>3</sup> Since most flights at the airports of ACV is A320 and A321, aircraft weight of 50 to 100 tons, thus BSC collects the landing charges for this type of other airports in the region for comparison.



## SUSTAINABLE OUTPUT GROWTH

Top 10 market witness highest additional passengers per year



**Effective operations and sustainable growth.** In the period 2012 – 2015, the number of passenger increased on average of 19% per year, cargo volume increased by 14% per year and landing flights increased on average 13% per year. This momentum continues to be maintained in 9M2016, total passengers reached 60.5 million (+29.6% yoy), including 17.5 million international passengers (+25.2% yoy) and 43 million domestic passengers (+31.5% yoy), freight and postal parcels reach 766 thousand tons (+6.9% yoy), landing flights reached 417.8 thousand (+25.9% yoy). IATA predicted that Vietnam will be the country with highest growth in Southeast Asia and the fifth in top 10 countries with the highest growth rates in the world, increased by an average 7.2% per year from 2014-2034. High growth rate potential is from tourism, international trade, economic growth and the development of the low-cost carrier in Vietnam.

**Aeronautical services charges are able to increase.** ACV is proposing to increase domestic passenger service charges in 7 important airports (Tan Son Nhat, Noi Bai, Da Nang, Cam Ranh, Phu Quoc, Vinh, Phu Bai) and increase landing charge for domestic flights. If approved, revenue and profit of ACV's aeronautical segment is expected to grow.

**Expanding capacity to meet growth.** ACV is the only operator that exploit 22 civil airports in Vietnam. The total passenger in 2015 reached 63 million. Many airports are overload as Tan Son Nhat (106%), Da Nang (112%), Cam Ranh (109%) and Cat Bi (104%). Beside T2 Noi Bai went into operation from Dec 2014, ACV is also conducting more investment to expand the international terminal, meeting air-travel demand. Some major investment plans include: an increase of 30% capacity for international terminal of Tan Son Nhat to 13 million passengers / year (finishing before 1Q2017), the international terminal of Da Nang with capacity of 4 million passengers per year (expected to be completed before March 2017), the international terminal of Cam Ranh with 1<sup>st</sup> phase at capacity of 2.8 million passengers per year (expected to be completed in March 2018), 2<sup>nd</sup> phase at capacity adding of 4 million passengers and 3<sup>rd</sup> phase of adding 1.5 million passengers per year.

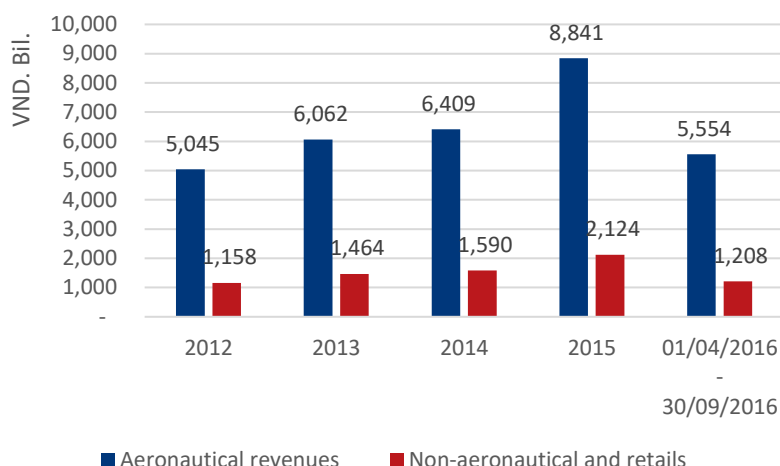
## ROBUST GROWTH OF CORE BUSINESS

In 2016, we evaluate the effectiveness of the corporation based on data from April 1, 2016, the time ACV transformed into a joint stock company officially.

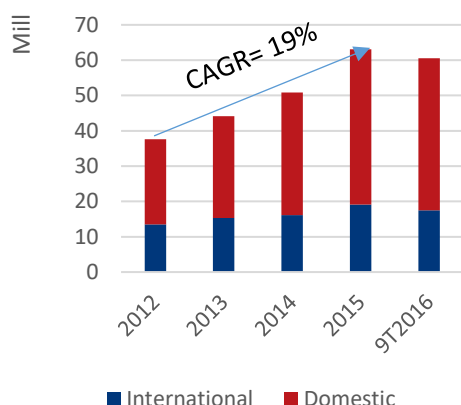
**Revenue grew sharply.** Total consolidated revenue in 2015 reached VND 13,173 billion (+ 25% yoy), CAGR was 18% / year from 2012 to 2015. Considering the financial statements of parent company (operating 21 civil airports in Vietnam), for 4 years from 2012 to 2015, revenue from aviation services accounted for the largest proportion, averaged 80.66% of total revenue. From 01/04 - 30/09/2016, revenue from aviation services reached VND 5,554 billion, 63% of 2015 revenue.



### Revenue breakdown of parent company

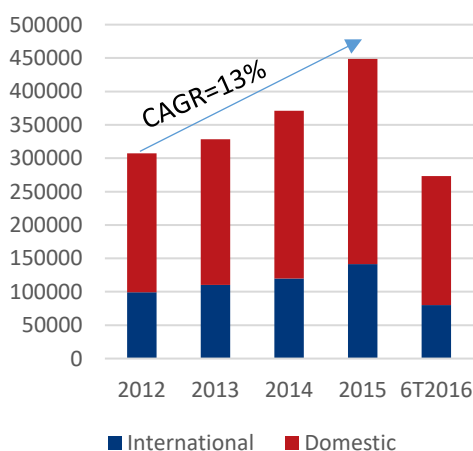


### Passenger volume served by ACV



Nguồn: BSC Research

### Air traffic movement of ACV from 2012-6M2016



Source: ACV, BSC Research

### Passenger Charges (59% of Aviation service revenues)

In 2015, revenue from passenger service reached VND 5,216.56 billion, up 39.73% yoy, due to (1) the amount of passenger increased 24.1%, reached 31.6 million passengers, (2) passenger service charge increased from 17 -20% for domestic flights, (3) international passenger services charge in the terminal T2 Noi Bai is higher 1.56x compared to the old international terminal at Noi Bai.

Total passenger traffic through airports of ACV in 9M2016 reached 60.5 million (+ 29.6% yoy). Calculated from 01/04 - 30/09/2016, revenue from passenger service was VND 3,376 billion, 64.72% of revenue in 2015.

### Landing revenue service (accounting for 16.10% of revenue from aviation services)

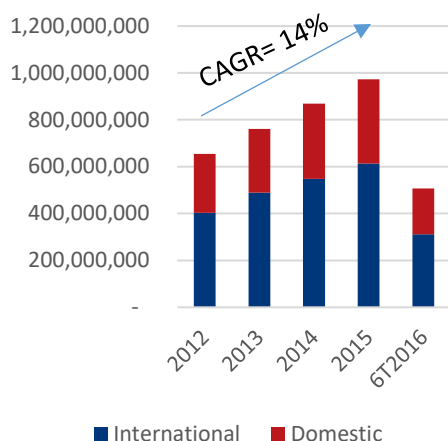
In 2015, revenue from landing revenue service reached VND 1,423 billion (+ 37.15% yoy), landing revenue count was nearly 449,000 (+ 20.81% yoy). In 9M2016, landing revenue count was over 417.8 thousand, equivalent to 79% of the implementation in 2015. Revenue from landing revenue service 01/04 – 30/09/2016 reached VND 893 billion, 63% of the implementation in 2015. After equalization, ACV continues to perform and record revenue for landing revenue service and pay rent to the Government.

### Airport security charge (5.11% of Aeronautical revenues)

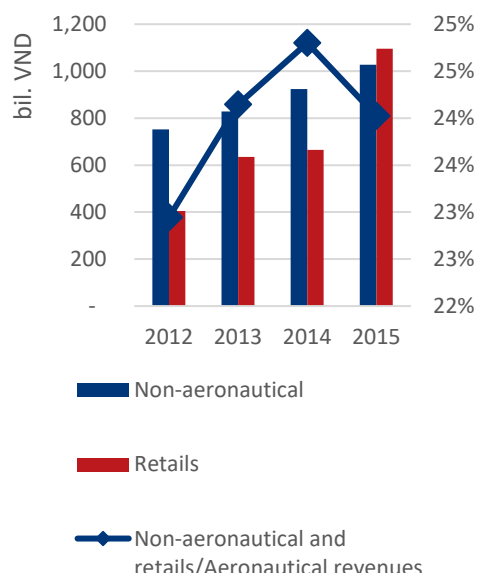
In 2015 revenue in this segment reached 451.68 bil, increased by 73.72%. The reason for this sharp increase was the application of new price level from Oct 1<sup>st</sup> 2014 according to Circular 1992. Accordingly, the airport security charge increased about 5 times for international passengers and 4 times for domestic ones. BSC believe that in this period, the growth of this segment will be in line with development of passengers and cargo throughout. From April 4<sup>th</sup> to Sep 30<sup>th</sup> 2016, airport security charge reached 314 bil, increased by 69.5% compared with whole year 2015.

Basic ground handling charge/whole package (4.65% of total revenue).

### Freight and postal parcels (tons)



### Non-aeronautical and retail revenues



Sources: BSC Research

Target applicants are carriers. In the Group A airports, besides ACV, ground handling services are also deployed by others service providers such as SAGS JSC, Hanoi ground handling service company and Danang ground handling service company. The price of ground handling services are quite competitive. In the group B airports, ACV supplies whole package ground handling services, including landing/taking off services, trade and technical service of ground service vehicles using terminal, security screening, aircraft parking in the first 3 hours free of charge. Frame rates of Package ground handling is regulated by the Ministry of Finance, according to Decision 1992. Accordingly, the ground handling package increased by 20% from 10/01/2014.

From 06/01/2014, SAGS was detached from dependent accounting unit to limited company and was equitized at the end of 2014. SAGS performs ground handling at Tan Son Nhat international airport. From second quarter 2015, HSG was detached from ACV's subsidiary ( ACV owned 20% stake). Therefore, ground handling service revenue of ACV parent company continue downward trend since 2014.

The ground handling service consolidation revenue remains 14% per year growth from 2013 to 2015. We believe that from fourth quarter 2016, the ground handling service consolidation revenue will be downed due to partly divestment from SAGS, translating subsidiary to associate. In the meantime, volume and revenue of SAGS grew strongly in which revenue increased by 25% in 2015, 39% in first half 2016 and is believed to continue increasing thanks to ground handling service in Cam Ranh international airport from Jul 1<sup>st</sup> 2016.

#### Other Aeronautical services.

Revenue from other aeronautical services stood at 1.338,71 bil in 2015, increased by 47.63% thanks to increase in fee charge. Overall, growth of other aeronautical services will be relied on main ones (landing/taking off services, customer services and security charge). From April 1<sup>st</sup> to Sep 30<sup>th</sup> 2016, revenue from other aeronautical service reached 784 bil, equal to 58.56% of segment's revenue recorded in whole year 2015.

#### Non-aeronautical services and Sales still have room for growth.

Non-aeronautical revenue and sales in 2015 reached 2.124 bil, increased by 33.62% yoy, and have CAGR growth of 22.42% in period 2012-2015. This revenue was recorded at 1.208 bil from April 1<sup>st</sup> to 30<sup>th</sup> Sep 2016, equal to 56.86% of whole year 2015. The main growth drivers of this 2 services were increase in passenger throughout and area of airports were not developed each year.

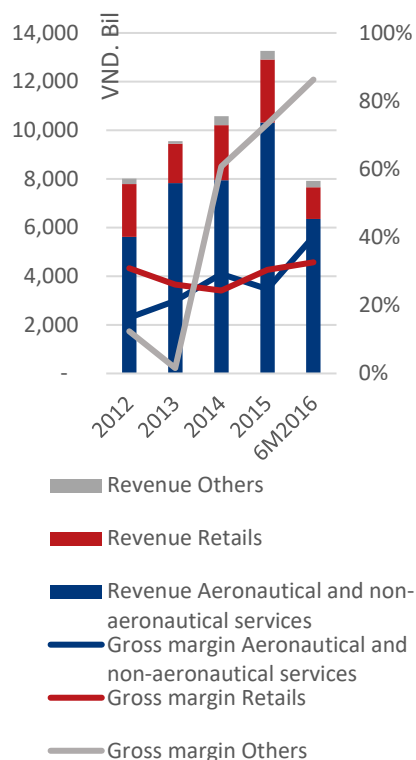
In period 2012-2015, gross profit margin of this segment was 30.16% on average and increased to 32.81% in first half of 2016

BSC believes that growth drivers for this segment will rely on:

- (1) The development of airports: the deployment of Noi Bai T2 airport and increase in passenger throughout in international airports such as Phu Quoc, Cam Ranh, Vinh...
- (2) In the long run the leasing price is likely to increase. Compared with leasing price in Hanoi and HCM city, the leasing price in other airports are still relatively low.

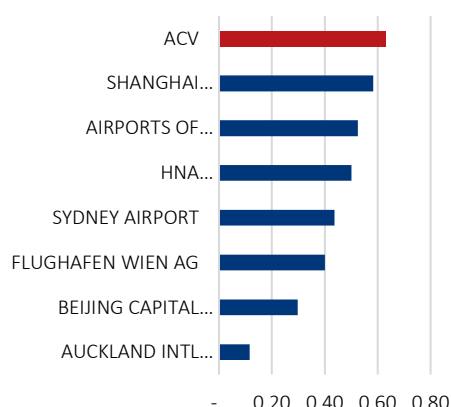
## HEALTHY FINANCIAL POSITION

Revenues and gross margin of ACV from 2012-2015 and 6M2016<sup>4</sup>



Sources: ACV, BSC research

Fixed asset turnover



Sources: Bloomberg, BSC research

Cost breakdown of ACV's parent company from 1/4/2016-30/9/2016

The GPM has been improved significantly in 2016 and it is expected to increase more robust than passenger and cargo volumes due to the large fixed cost. The strong cash flow is accumulated from large annual depreciation cost. Strong cash, reached at VND 17,000 bn at the end of 3Q2016, equivalent to the investment cost of a medium or scale airport. We believe that, the future operation cash flow of ACV will remain high, maintaining the financial stability and supporting ACV in the upcoming extension stage.

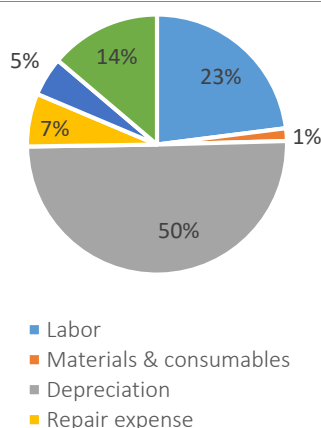
**Huge revenue with fast growth.** The total consolidated revenue reached VND 13,173 bn in 2015, CAGR = 18% for the period of 2012-2015 thanks to (1) the passenger volume increased by 19% per year on average, the cargo volume rose by 14% per year, the CAGR of landing/taking off volume is 13% for 2012-2015; (2) the rate schedule of various aviation services has been adjusted from Oct 1<sup>st</sup> 2014 as mentioned in the previous ACV report. From 1/4/2016-30/9/2016, the total consolidated revenue reached VND 6,762 billion (equivalent to 60% of 2015 total revenue).

The fixed asset turnover was 0.63 per year, higher than the average level of airports in the area, and this shows the effective exploitation of the company.

**Improvement in core business.** The consolidated operating margin doubled from 14% in 2015 to 28% in the 6 months from 1/4/2016-30/9/2016. Regarding to parent company, the GPM of retail increased from 30% in 2015 to 33% in the period of 1/4/2016-30/9/2016, the GPM of aviation and non-aviation services rose sharply from 24% in 2015 to 37% in the period of 1/4/2016-30/9/2016, mainly due to the fast growth in revenue and large fixed cost (over 57% of total cost).

- **High depreciation expenses**, accounting for 50% of parent company's total cost, reached VND 2,156 bn, in the period of 1/4/2016-30/9/2016, equivalent to 61% of 2015 total depreciation cost. Since 2015, the depreciation cost increased by 1,437bn (+69% YoY, mainly due to the operation of Noi Bai T2 Station. Since June 30<sup>th</sup> 2014, the depreciation time frame for machinery and appliance assets has doubled, down by VND 333 billion in depreciation cost per year.
- **High and decling major maintenance cost since 2016**, occupying 7% total cost. The maintenance cost in 6 months fell to VND 284 bn, equivalent to 23% of 2015 total maintenance cost. Annually, ACV's advance maintenance cost is 425.4 bn, lower than the amount of 995 bn per year prior to 2015, because ACV no longer has the obligation for advanced major maintenance for assets in fly zones.
- **Other costs.** The staff cost and other cost (primarily the COGS) accounts for 23% and 14% of total cost, respectively. The staff cost likely fell sharply, helping to improve business results. In the period of 1/4/2016-30/9/2016, the total staff cost was 988 bn, equivalent

<sup>4</sup> Từ 1/4/2016-30/9/2016



Sources: ACV

to 44% of 2015 total staff cost while the revenue equals to 60% of the one in 2015.

The foreign exchange losses eroded 75% of core profit (6M2016), but did not affect the company's cash flow. The foreign exchange losses reached to VND 1,656bn in the period of 1/4/2016-30/9/2016. Notable, the majority of ACV's exchange losses are unrealized losses, although those hurt the company's profit but do not impact the operation cash flow of the firm.

**Assets.** The asset structure is maintained stable with the average of 49% from 2012-30/9/2016. The major proportion of ACV's asset structure is fixed assets and cash, cash equivalents and short-term investments.

- **Long-term investments.** As the characteristic airport operators, fixed assets account for the highest proportion of long-term asset (VND 21,608bn, equivalent to nearly 100% of ACV's total long-term assets). As mentioned in the ACV report, after IPO, the value of assets in fly zones were transferred to government, ACV no longer has the obligation to paid in advance for depreciation and major maintenance for these assets.
- **Plentiful cash.** The total value of cash, cash equivalents and short-term financial investments at the end of 3Q2016 of ACV was 16,883 bn (37% of total asset), equivalent to 77% of equity.

**The receivable and inventory risks is low.** The account receivables of ACV at the end of 3Q2016 was 4,003 bn, in which, the customer receivables are mainly airlines, therefore, the prepayments for suppliers and interest receivable, which have low risk of non-repayment. With the characteristics of aviation sector, the service segment mostly have no inventories, the inventories were mainly from sales segment (517bn, occupying 73% of total inventories at the end of 2015).

**Long-term fund with low cost and low annual principal repayments.** The largest fund of the firm is equity (22trillions, 48% of total asset), and the long-term debt (16trillions, 35% of total asset). ACV primarily borrows ODA with the maturity up to 40 years, the grace period of 10 years and low annual interest cost of 0.2-1.6% per year. The long-term principal payable in 2016 is JPY 731 mil, equivalent to VND 137 bn. This brings advantages to ACV's cost and cash flow. However, as the debts are mainly dominated in JPY (JPY 419 mil on Sept 30<sup>th</sup> 2016), ACV exposes to exchange rate risk (see Appendix 3).

**Large appropriated funds,** the total short-term payables reached to over 7trillions, helping to release the short-term debt pressure (nearly 1trillions borrowed), and reduce the company's interest expense.

**High solvency** thanks to the huge amount of cash, cash equivalents and short-term investments. Until Sept 30<sup>th</sup> 2016, the quick and current ratios were 2.78x and 2.9x respectively.

**Strong cash flow.** The operation cash flow fluctuated from 2,130 bn to 4,213 bn during 2012-2015 and reached 1,958bn in 3Q2016. This stemmed from (1) fast growth in core business, (2) low repayment pressure and interest

expenses; (3) huge depreciation cost and high annual prepaid major maintenance expense.

## 2016-2020 POSITIVE RESULTS FORECAST

*We forecast 2016 revenue is VND 15,793 billion and 2020 revenues is 22,404 billion, equivalent to CAGR of 11% during 2016-2020. Net profit for parent shareholders is projected to get VND 2,221 billion in 2016 (+30% yoy), then be 7,961 billion in 2020, CAGR of 36%.*

We forecast that revenues on each of the three core segments of the parent company: (1) Aeronautical revenue, (2) Non-Aeronautical revenue and (3) Retail sales. The anticipated growth rate of passenger traffic and cargo traffic is based on airlines' plan, Vietnam Aviation Administration's plan, scheduled flight traffic and maximum capacity in each airport. Then:

- The air traffic volume is expected to get 170 thousand international flights, reaching 392 thousand domestic flights in 2016. We forecast that the taking-off /landing volume at each port is subject to route plans announced by the airways, and assumed balance between the number of new routes opened and closed in the future. Meanwhile, the output of international and domestic landing revenues will reach nearly 183 thousand and 396 thousand flights in 2020 respectively.
- ACV plans to serve about 39 million passengers in 2016 (+23% yoy), including 11 million foreign tourists and 28 million domestic visitors. ACV's passenger volume growth is estimated at 12.3%/year. In particular, the growth rate of international passenger volume will increase by 8.9%/year, and that of domestic will rise by 13.52% from 2016 to 2020.
- The international cargo traffic is forecasted to get 358 million tons in 2016, growing by 9.86% year from 2016 to 2020. 2016 domestic one is expected to be 218 million tons, rising by 19%/year from 2016 to 2020.
- ACV maintains the fixed rate and rate schedules of their aeronautical services prescribed by Decision No.1992/QD-BTC.
- The USD / VND exchange rate is expected to go up by 2%/year over the period 2016-2020.

Therefore:

**Revenue from aeronautical services** is forecasted to be VND 11,315 billion in 2016 and VND 15,856 billion in 2020, reaching CAGR of 8.8% from 2016 to 2020. In detail, ACV's ground handling charge will decline sharply from 2017 because the SAGS is no longer a subsidiary of ACV from Oct 2016. This company performs the ground handling operations at the Tan Son Nhat, Da Nang and Cam Ranh International airport.

**Revenue from non-aeronautical services** is estimated to reach VND 1,340 billion in 2016, then increasing to VND 1,728 billion in 2020 with an average growth rate of 7%/year from 2016 to 2020.

**Revenue from retail** is expected to be VND 3.070 billion in 2016, experiencing an average rise by 11.83% from 2016 to 2020, with assumptions of the passenger volume growth of 12.3%/year, inflation rate of 4%/year, and the USD/VND rate increased by 2%/year. It is noticeable that the growth of ACV's commercial revenue may be higher due to rising spending and the improvement of international passengers, main customers at airports.

Forecast revenue of ACV's business activities

	2016F	2017F	2018F	2019F	2020F
<b>Aeronautical service</b>	<b>11,315</b>	<b>11,732</b>	<b>12,928</b>	<b>14,294</b>	<b>15,856</b>
Landing revenues	1,761	1,868	1,891	1,914	1,938
Passenger services	6,319	7,221	8,220	9,366	10,684
Ground handling	1,089	323	323	323	323
Airport security	569	641	721	810	911
Others	1,577	1,678	1,773	1,881	2,001
<b>Non-Aeronautical services</b>	<b>1,340</b>	<b>1,405</b>	<b>1,500</b>	<b>1,607</b>	<b>1,728</b>
<b>Retail</b>	<b>3,070</b>	<b>3,409</b>	<b>3,804</b>	<b>4,264</b>	<b>4,801</b>
Others	385	389	393	397	401
<b>Total</b>	<b>16,110</b>	<b>16,935</b>	<b>18,626</b>	<b>20,563</b>	<b>22,786</b>
Elimination	(317)	(323)	(341)	(360)	(381)
<b>Net revenue</b>	<b>15,793</b>	<b>16,612</b>	<b>18,285</b>	<b>20,203</b>	<b>22,404</b>

Forecast operation expenses by the parent company

	2016F	2017F	2018F	2019F	2020F
Employee	1,976	2,136	2,243	2,355	2,472
Depreciation	4,129	4,296	3,960	3,776	3,339
Repairing properties	567	638	638	638	638
Outside purchasing services	1,186	1,397	1,648	1,943	2,294
Others	551	603	660	725	797
<b>Total</b>	<b>8,409</b>	<b>9,070</b>	<b>9,148</b>	<b>9,437</b>	<b>9,540</b>

Sources: BSC research

**ACV's gross profit margin is expected to improve significantly** from 27% in 2015 to 40% in 2016, even to 52% in 2020. The gross profit margins of the subsidiaries such as SASCO and NAFSC remains unchanged when that of the parent company is forecasted to soar from 24% in 2015 to 40% in 2016 and 56% in 2020.

- **Depreciation** prediction is based on the depreciation rate of current assets and new assets put into operation during the period of 2016-2020. The depreciation expenses of new property are likely to increase from VND 541 billion in 2016 to VND 1,177 billion in 2020. There will be a rapid decline in depreciation of old property, especially in 2020 due to many depreciated assets.
- **The cost of repairing properties** is estimated to reach VND 567 billion in 2016. Since April 1<sup>st</sup> 2016, ACV has no longer deducted the cost of repair and maintenance the properties in their maneuvering area. Their annual large repair and maintenance cost (not including T2 terminal) is VND 425.4 billion. ACV starts to deduct this cost of T2 terminal from 2017 (because the terminal is under warranty of 2 years), which is estimated at VND 71 billion, based on the annual major repair and maintenance cost of terminal at level 1. ACV's major repair and maintenance costs will be VND 638 billion from 2017.



- **Employee expenses** are expected to be VND 1,918 billion in 2016 and VND 2,472 billion in 2020. It is based on our assumptions that their salary increases by 5%/year and the staff growth is similar to the scheduled flight traffic volume.
- **Outside purchasing services costs** are mainly COGS. The gross profit margin from the parent company's retail sales is forecasted to remain stable at 33%. Based on the assumption of sales, COGS reaching VND 963 billion in 2016 and 1,939 billion in 2020. Meanwhile, ACV's cost of outside purchasing services is VND 1,186 billion in 2016 and VND 2,294 billion in 2020.

**Sale and General administrative expense** are expected to remain unchanged, accounting for 4% and 9% of revenue every year in turn.

#### Revenue and financial costs.

- Interest is estimated to be VND 744 billion in 2016 and VND 839 billion in 2020. The interest rate will be stable.
- Interest expense is forecasted to be VND 112 billion in 2016 and VND 97 billion in 2020. Our calculations depend on the repayment long-term debt according to the contract schedule, stable interest rates and assumption of the JPY/VND exchange rate as followed:

The JPY/VND rate is compiled by Bloomberg with the USD/JPY and the assumed increase in USD price by 2%/year compared to VND. With 1 JPY is equal to 217.3 VND in late 2016, the foreign exchange losses is estimated at VND 2,140 billion in 2016. As mentioned above, due to the ACV's outstanding debt dominated in JPY, the company is strongly influenced by the movement of JPY on VND. To estimate this effect, we make a sensitivity analysis of ACV's business results year by year according to the fluctuation of exchange rate, and obtained the following results (see Appendix 03).

## VALUATION

Weighted average cost of capital (WACC)	
Risk-free rate	6.60%
Beta	1.09
Market yield	11.75%
Cost of equity	12.19%
Cost of debt	6.00%
Debt & equity	0.32
WACC	9.82%

*We used a combination of two valuation methods (1) FCF- discounted Free Cash flow to Firm and (2) Comparison of EV / EBITDA. These methods take into consideration the value of business assets, potential future profits and the level of market acceptance for similar businesses. We note that our forecasts and valuation does not include the investment and operation of Long Thanh international airport.*

#### We use growth model for 2 phases:

**1st phase from 2016 to 2020:** equivalent to the rapid growing stage of Vietnamese airport sector as discussed earlier.

**2nd phase (after 2020):** long-term growth with the rate of 3% per year.

Price of ACV	
Current value (VNDb)	65,169
(-) Debt	(23,678)
(-) Minority interest	(927)
(+) Cash and cash equivalents	4,352
(+) Financial investments	12,531

**Weight average cost of capital (WACC).** We use CAPM method for calculating cost of equity. Risk-free yield is the 10-year Government bonds (6.6%), and market yield is 11.75% according to DamonDaran. Because ACV is not listed, we use pure play method to estimate its beta. Specifically, we select beta of regional peers adjusted debt ratios versus ACV. Finally, ACV's beta is



Net value for shareholders	57,447	estimated at 1.09x. Besides, the cost of equity and WACC of firm are 12.19% and 9.82%, respectively.
Number of share outstanding	2,177	
Reasonable price per share	<b>26,386</b>	

Soures: BSC research

Reasonable price of ACV will be at VND 26,386/share.

#### EV/EBITDA comparison method

- Median EV/EBITDA of airport operators in the region is 9.64x
- 2016 EBITDA of ACV is VND 9,205 billion
- Estimated EV of ACV is VND 88,762.
- Reasonable price of ACV will be at VND 37,223 đồng.

Method	Price
DCF	26,386
EV//EBITDA	37,223

Combining these valuation methods, it is expected that each share of ACV will be reasonably priced in the range of VND 26,386 to VND 37,223.

#### Regional peers comparison and ACV's beta estimation

Companies	Countries	Mkt Cap	Rev(TT M)	EV/EB ITDA	P/E	P/B	5yr Beta	D/E	Tax rate	Unlevera	Converte d beta of
AIRPORTS OF THAILAND PCL	THAILAND	338,335	30,881	15.98	25.29	4.57	1.07	0.29	20%	0.87	1.63
AUCKLAND INTL AIRPORT LTD	NEW ZEALAND	120,796	8,171	22.33	28.67	1.94	1.05	0.49	28%	0.78	1.45
MALAYSIA AIRPORTS HLDGS BHD	MALAYSIA	54,376	22,355	9.64	N/A	1.39	0.93	0.65	25%	0.62	1.16
HNA INFRASTRUCTURE COMPANY L	CHINA	11,590	3,813	8.03	7.64	0.94	0.80	0.89	25%	0.48	0.90
FLUGHAFEN WIEN AG	AUSTRIA	44,779	16,769	8.91	11.61	1.69	0.63	0.40	25%	0.48	0.89
BEIJING CAPITAL INTL AIRPO-H	CHINA	99,587	29,762	8.72	17.65	1.62	0.77	0.57	25%	0.54	1.01
SYDNEY AIRPORT	AUSTRALIA	230,927	21,062	22.37	43.61	12.11	0.85	7.68	30%	0.13	0.25
SHANGHAI INTERNATIONAL AIR-A	CHINA	167,098	22,951		18.85	2.36	0.93	0.11	25%	0.86	1.60
<b>Median</b>				<b>9.64</b>	<b>18.85</b>	<b>1.82</b>	<b>0.89</b>	<b>0.53</b>			
<b>ACV</b>									<b>20%</b>		<b>1.09</b>

Sources: Bloomberg, BSC research

## APPENDIX 01: BALANCE SHEET

	2016F	2017F	2018F	2019F	2020F
<b>A. Current Assets</b>	<b>18,920</b>	<b>14,578</b>	<b>17,736</b>	<b>21,110</b>	<b>27,668</b>
I. Cash and cash equivalents	1,536	383	2,152	2,929	5,628
II. Net value of short-term	12,503	8,984	9,984	11,984	14,984
III. Receivables	3,878	4,113	4,400	4,756	5,132
IV. Net inventories	702	754	764	789	801
V. Other current assets	300	345	435	651	1,122
<b>B. Long-term assets</b>	<b>27,100</b>	<b>33,035</b>	<b>33,860</b>	<b>35,845</b>	<b>35,238</b>
I. Long-term receivables	212	212	212	212	212
II. Fixed assets	20,617	21,381	19,749	18,791	16,759
1. Residual value of tangible fixed	20,563	21,341	19,718	18,762	16,732
2. Residual value of finance	-	-	-	-	-
3. Residual value of intangible	54	40	31	29	27
III. Capital instruction in progress	5,139	10,200	12,527	15,345	16,651
IV. Net value of investment assets	32	32	32	32	32
V. Long-term investments	885	996	1,126	1,251	1,370
VI. Other long-term assets	214	214	214	214	214
<b>TOTAL ASSETS</b>	<b>46,019</b>	<b>47,613</b>	<b>51,596</b>	<b>56,956</b>	<b>62,906</b>
<b>A. Liabilities</b>	<b>23,994</b>	<b>23,214</b>	<b>24,069</b>	<b>25,775</b>	<b>26,047</b>
I. Current liabilities	7,866	7,112	7,808	8,661	9,260
II. Long-term liabilities	16,128	16,102	16,261	17,114	16,788
<b>B. Stock holder's equity</b>	<b>22,025</b>	<b>24,399</b>	<b>27,527</b>	<b>31,181</b>	<b>36,859</b>
I. Capital and funds	22,025	24,399	27,527	31,181	36,859
II. State budget sources and other	-	-	-	-	-
<b>TOTAL RESOURCES</b>	<b>46,019</b>	<b>47,613</b>	<b>51,596</b>	<b>56,956</b>	<b>62,906</b>

## APPENDIX 02: INCOME STATEMENT

	2016F	2017F	2018F	2019F	2020F
<b>Net revenue</b>	<b>15,793</b>	<b>16,612</b>	<b>18,285</b>	<b>20,203</b>	<b>22,404</b>
Cost of goods sold	-9,530	-10,228	-10,365	-10,701	-10,867
<b>Gross profit</b>	<b>6,263</b>	<b>6,384</b>	<b>7,920</b>	<b>9,501</b>	<b>11,537</b>
Financial income	794	897	680	695	1,406
Financial expenses	-2,252	-104	-101	-682	-97
- In which: interest expense	(112)	(104)	(101)	(103)	(97)
Gain/loss from associates	24	111	131	125	119
Selling expenses	(626)	(659)	(725)	(771)	(855)
Administration expenses	(1,384)	(1,456)	(1,602)	(1,770)	(1,963)
<b>Net operating profit</b>	<b>2,819</b>	<b>5,173</b>	<b>6,303</b>	<b>7,097</b>	<b>10,146</b>
<b>Other profit</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Profit before tax</b>	<b>2,824</b>	<b>5,173</b>	<b>6,303</b>	<b>7,097</b>	<b>10,146</b>
Corporation income tax	(550)	(1,002)	(1,224)	(1,384)	(1,995)
<b>Net profit after tax</b>	<b>2,274</b>	<b>4,171</b>	<b>5,078</b>	<b>5,713</b>	<b>8,151</b>
<b>Profit of parent company</b>	<b>2,221</b>	<b>4,073</b>	<b>4,960</b>	<b>5,580</b>	<b>7,961</b>

Sources: BSC research

### APPENDIX 03: SCENARIOS FOR EXCHANGE RATE IMPACTING ON BUSINESS RESULT OF ACV

#### Estimated profit/loss from exchange rate differences according to projections compiled by Bloomberg

	2016F	2017F	2018F	2019F	2020F
USD/JPY	103	107	110	108	114
USD/VND	22,360	22,807	23,263	23,729	24,203
JPY/VND	217.30	213.15	211.48	219.71	212.31
Estimated profit/loss from exchange rate differences (VND billion)	(2,140)	299	119	(580)	516

Source: Bloomberg, BSC research

#### Scenarios for JPY/VND exchange rate impacting on consolidated profit before tax of ACV

(Reference exchange rate 2016 is 217.3 VND/JPY)

	2016F	2017F	2018F	2019F	2020F
20%	(335)	1,724	2,769	4,184	6,744
15%	454	2,511	3,549	4,955	7,507
10%	1,244	3,298	4,328	5,726	8,270
5%	2,034	4,085	5,107	6,497	9,033
<b>0%</b>	<b>2,824</b>	<b>4,872</b>	<b>5,886</b>	<b>7,268</b>	<b>9,796</b>
-5%	3,614	5,660	6,665	8,039	10,559
-10%	4,403	6,447	7,444	8,810	11,322
-15%	5,193	7,234	8,223	9,581	12,085
-20%	5,983	8,021	9,002	10,352	12,847

Sources: BSC research

## APPENDIX 04: REALITY OF EXPLOITATION IN VIETNAM AIRPORT SYSTEM

No.	Airport	Classification	Capacity (Passengers)	2015 Volume (passengers)	% Capacity
1	Noi Bai International Airport	International, Group A	25,000,000	17,213,715	68.85%
2	Tan Son Nhat International Airport	International, Group A	25,000,000	26,546,475	106.19%
3	Da Nang International Airport	International, Group A	6,000,000	6,722,587	112.04%
4	Phu Bai International Airport	International, Group A	1,500,000	1,320,242	88.02%
5	Cam Ranh International Airport	International, Group A	2,500,000	2,722,833	108.91%
6	Can Tho International Airport	International, Group A	3,000,000	481,447	16.05%
7	Phu Quoc International Airport	International, Group A	2,650,000	1,467,043	55.36%
8	Cat Bi International Airport	Domestic, Group A	1,200,000	1,256,719	104.73%
9	Vinh International Airport	Domestic Group B	2,000,000	1,375,806	68.79%
10	Lien Khuong Airport	Domestic, Group A	2,000,000	862,164	43.11%
11	Dien Bien Airport	Domestic Group B	300,000	70,220	23.41%
12	Tho Xuan Airport	Domestic Group B	600,000	570,713	95.12%
13	Dong Hoi Airport	Domestic Group B	500,000	261,372	52.27%
14	Chu Lai Airport	Domestic Group B	500,000	154,549	30.91%
15	Phu Cat Airport	Domestic Group B	750,000	634,935	84.66%
16	Tuy Hoa Airport	Domestic Group B	555,000	103,541	18.66%
17	Pleiku Airport	Domestic Group B	600,000	235,860	39.31%
18	Buon Ma Thuot Airport	Domestic Group A	2,000,000	817,515	40.88%
19	Rach Gia Airport	Domestic Group B	250,000	40,993	16.40%
20	Ca Mau Airport	Domestic Group B	200,000	33,102	16.55%
21	Con Dao Airport	Domestic Group B	400,000	231,679	57.92%
22	Na San Airport	Domestic Group B			
<b>Total</b>			77,505,000	63,123,510	

Sources: ACV, BSC research

**APPENDIX 05: SERVICE PRICE FOR PASSENGERS ACCORDING TO DECISION NO.1992**

Airport	Previous level	Service price according to Decision No.1992 (Since 01/10/2014)	
		Minimum	Maximum
International Flights (USD/passenger)			
1. Tan Son Nhat	20	10	20
2. Phu Quoc	18	9	18
3. Da Nang, Can Tho	16	8	16
4. Noi Bai			
- Curent terminal	16	8	16
- Terminal T2		13	25
5. Lien Khuong, Cam Ranh	14	7	14
6. Other airports	8	4	8
Domestic Flights (VND/passenger)			
Aiport Group A	54,545	31,818	63,636
Airport Group B	45,455	27,272	54,545

Sources: Decision No.1992, BSC research

**BSC RATING SYSTEM AND VALUATION METHODOLOGY**

**Rating System:** Our recommendations are relative to the market development and are based on the difference between the current price and our 12-month price target includes dividends over the period (Unless otherwise specified). This structure applies from 1st Jan 2014.

**Valuation Methodology:** The selection of methods depends on the industry, the company, the stock. Our valuations are based on a single or a combination of one of the following valuation methods: 1) Relative models (P/E, P/B, EV/EBIT, EV/EBITDA); 2) Discount models (DCF, DVMA, DDM); 3) Asset-based evaluation methods (NAV, RNAV).

Rating System	Note
<b>STRONG BUY</b>	If the target price is 20% higher than the market price
<b>BUY</b>	If the target price is 5% to 20% higher than the market price
<b>HOLD</b>	If the target price is 5% higher or lower than the market price
<b>SELL</b>	If the target price is more than 5% lower than the market price
<b>NOT RATED</b>	The investment rating and target price have been removed pursuant to BSC policy when BSC is

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