



2015 Purchase Price Allocation Study

December 2016

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Introduction

We are proud to present the fifth edition of our Purchase Price Allocation Study. In this study you will find statistics on publically disclosed purchase price allocation studies and economic useful lives of 2014 and 2015. The source for our analysis is the PPAAnalyser database. PPAAnalyser is a subscription database that includes financial details of publically disclosed purchase price allocations, discount rates and impairments. Besides purchase price allocation data, PPAAnalyser also provides economic useful life data used in PPA analyses. For more information visit www.ppanalyser.com.

In this fifth edition you will find a selection of statistics. These include statistics per type of industry, type of intangible and per region. In addition you will find statistics on economic useful lives.

Should you have any questions or comments, please don't hesitate to contact us on ppastudy@ppanalyser.com.

Criteria & methodology

- The source we used for this study was the [PPAnalyser](#) database. PPAAnalyser includes purchase price allocation data that was identified by searching for purchase price allocations disclosed in annual and quarterly reports.
- For the purpose of this study a selection of PPAs included in the database was made based on the following criteria:
 - Year: 2014 and 2015.
 - Financial information disclosed: only those PPAs were included that disclosed both the purchase price as well as the allocation of intangibles.
- Intangibles identified in the PPAs and discount rates were assigned to one of the following intangible categories:
 1. Marketing related intangible assets
 2. Customer related intangible assets
 3. Artistic related intangible assets
 4. Contract related intangible assets
 5. Technology related intangible assets
 6. Research & Development related intangible assets
- All amounts were converted to USD using a single exchange rate for 2014 and 2015.
- When analyzing the proportion of tangible assets, intangible assets and goodwill compared to total assets, total assets is determined by the purchase price net of liabilities.

Criteria & methodology

- We classified the PPAs and impairments into the following industry categories:
 - Agriculture, Forestry, Fishing
 - Construction
 - Finance, Insurance, Real Estate
 - Manufacturing
 - Mining
 - Public Administration
 - Retail Trade
 - Services
 - Transportation & Public Utilities
 - Wholesale Trade
- We segmented the allocation results across seven size categories (in USD x Millions):
 - > 1,000
 - 500 - 1000
 - 250 - 500
 - 100 - 250
 - 50 - 100
 - 25 – 50
 - < 25
- Consolidated statistics were determined based on the percentages of the individual PPA's (i.e. not weighted).
- For categories with less than 10 observations the results are not significant and are not discussed in this analysis.
- For economic useful life a distinction is made between intangibles with definite and indefinite lifetime. Both are disclosed and analysed separately.

Statistics

Allocation based on transaction size

- The median purchase price in the year 2015 increased by 21% compared to the year 2014, from 44.3 million USD to 53.8 million USD. The number of transactions decreased in 2015, however it should be noted that transactions that took place in 2015 are typically not all disclosed in the annual reports of 2015, therefore a reporting delay exists.
- Although an increase in the median purchase price can be observed, the purchase price of transactions above 1 billion declined with -8%. Between 500 million and 1 billion the purchase price decreased with almost -11%. A large increase is observed in transaction under 25 million with a 14% higher purchase price in 2015.

Year	# transactions	Median purchase price (x 1000)
2015	379	53,759
2014	583	44,300
% Change		21%

	Number of transactions		Median purchase price (x1000)		
	2015	2014	2015	2014	% change
PP > 1000	34	47	2,307,400	2,510,000	-8.1%
500 < PP < 1000	33	30	703,209	635,617	-10.6%
250 < PP < 500	27	52	315,437	329,610	-4.3%
100 < PP < 250	59	89	136,259	143,870	-5.3%
50 < PP < 100	42	62	74,532	72,926	2.2%
25 < PP < 50	51	71	37,922	35,568	6.6%
PP < 25	132	232	10,075	8,824	14.2%

Statistics

Allocation across industries

Purchase price

- The median purchase price of all transactions increased in 2015 to approximately USD 53.9 million (+21%).
- Most transactions are observed in the manufacturing sector, with 35% of the total amount of transactions in 2015. The second largest sector is the services sector with 31% of the total amount of transactions.
- When looking at the median purchase consideration, the most significant increases can be observed in the Manufacturing industry (+63%) and Services (+50%). The most significant decrease can be observed in the Finance, Insurance, Real Estate industry.

	Number of transactions				Median purchase consideration		
	2015	% of PPA's 2015	2014	% of PPA's 2014	2015	2014	% change
All industries	379	100%	583	100%	53,759	44,300	21%
Agriculture, Forestry, Fishing	1	0%	4	1%	5,571	14,655	-62%
Construction	1	0%	6	1%	7,800	36,834	-79%
Finance, Insurance, Real Estate	40	11%	53	9%	63,613	109,900	-42%
Manufacturing	134	35%	222	38%	97,557	59,983	63%
Mining	7	2%	7	1%	66,239	68,420	-3%
Public Administration	1	0%	1	0%	157,500	595,600	-74%
Retail Trade	8	2%	27	5%	27,659	68,537	-60%
Services	119	31%	185	32%	28,193	18,776	50%
Transportation & Public Utilities	51	13%	56	10%	92,962	140,213	-34%
Wholesale Trade	17	4%	22	4%	74,532	60,532	23%

Statistics

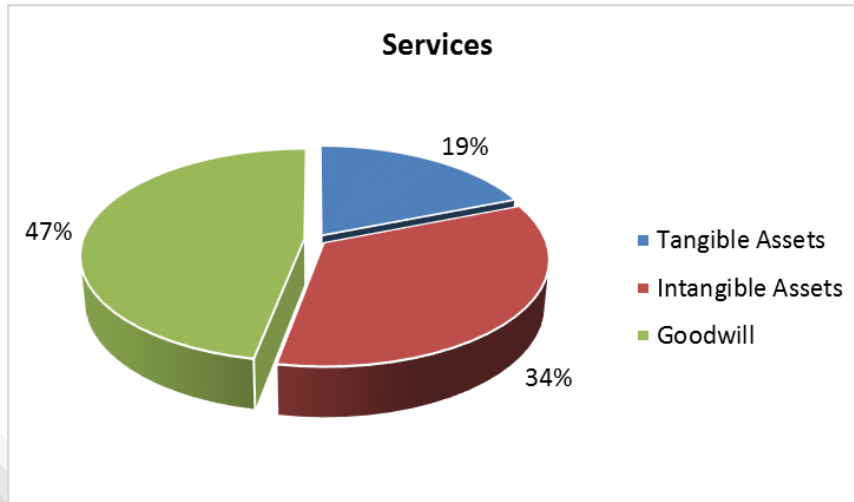
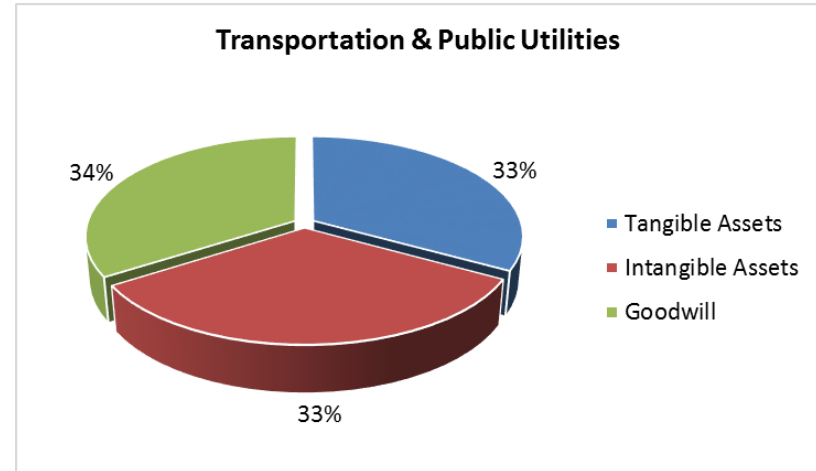
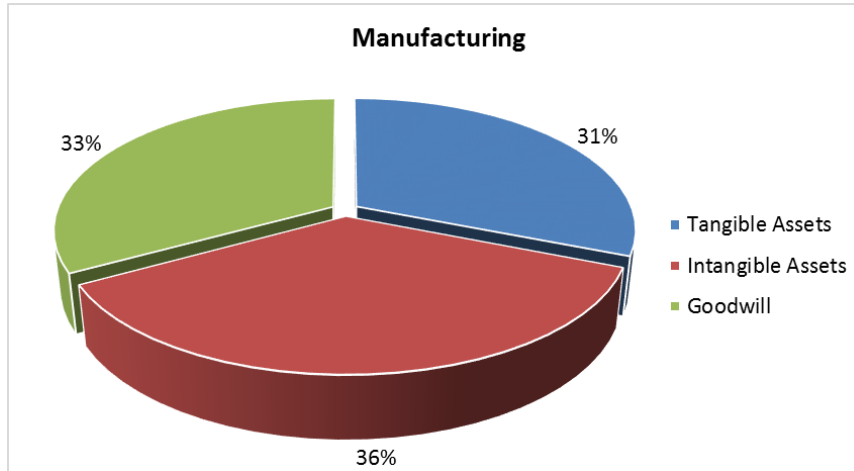
Allocation across intangibles

- Overall, the proportion of intangible assets (incl. goodwill) in relation to total assets increased across all transaction sizes (8.7% on average). An exceptional decrease can be observed for transactions values between 50 million USD & 100 million USD (-1%).
- The proportion of intangible assets (excl. goodwill) in relation to total assets increased for all transactions (5.1% on average).
- The proportion of goodwill in relation to total assets increased with 3.6% on average.
- These above observations suggest a shift from allocation of tangible assets to goodwill and intangible assets.

	Int. asset % of total assets			Goodwill as % of total assets			Total Int. as % of total assets		
	2015	2014	% change	2015	2014	% change	2015	2014	% change
Total assets > 1000	39%	34%	5.0%	36%	32%	4.0%	75%	66%	9.0%
500 < Total assets < 1000	39%	27%	12.0%	38%	33%	5.0%	77%	60%	17.0%
250 < Total assets < 500	34%	25%	9.0%	41%	32%	9.0%	75%	57%	18.0%
100 < Total assets < 250	32%	30%	2.0%	38%	32%	6.0%	70%	62%	8.0%
50 < Total assets < 100	32%	30%	2.0%	36%	39%	-3.0%	68%	69%	-1.0%
25 < Total assets < 50	36%	33%	3.0%	42%	41%	1.0%	78%	74%	4.0%
Total assets < 25	38%	35%	3.0%	42%	39%	3.0%	80%	74%	6.0%
Average			5.1%			3.6%			8.7%

Statistics

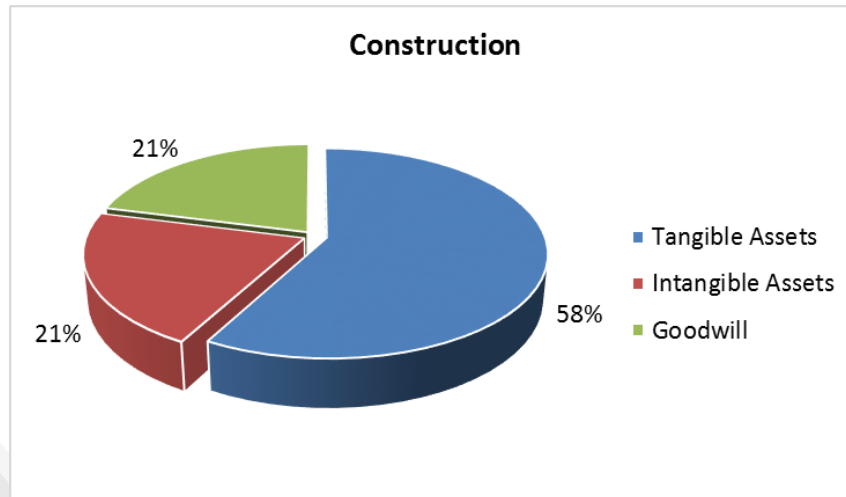
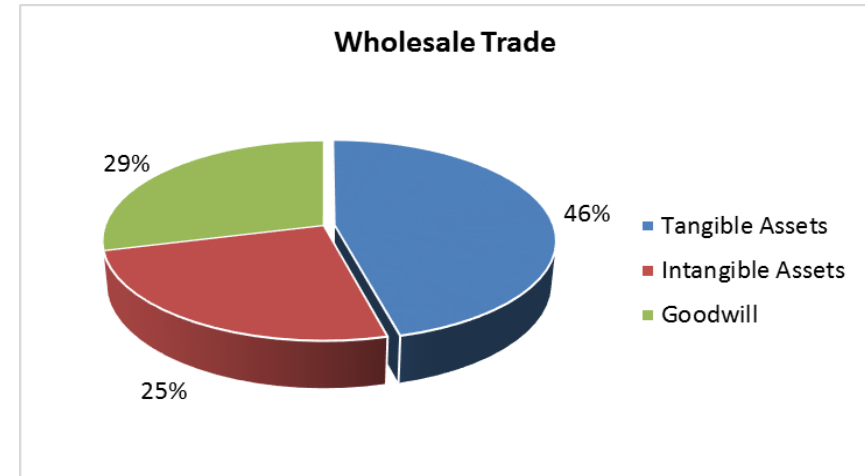
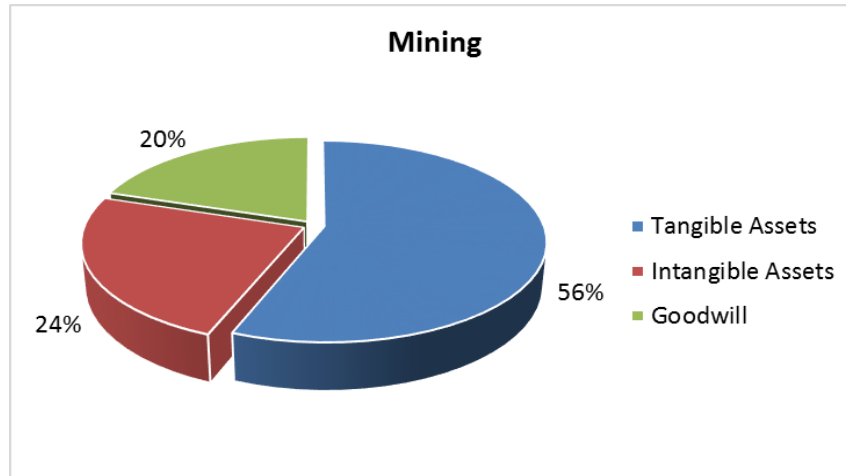
Allocation across intangibles & industries (1/4)



- The following 3 slides discuss the proportion of tangibles, intangibles and goodwill compared to total assets across industries.
- The industries with the highest proportion of intangible assets compared to total assets are Manufacturing, Transportation & Public Utilities and Services.
- For Transportation & Public Utilities, a 1/3 share allocation to intangible assets can be observed.
- The Services industry has the highest share of goodwill among all industries.

Statistics

Allocation across intangibles & industries (2/4)

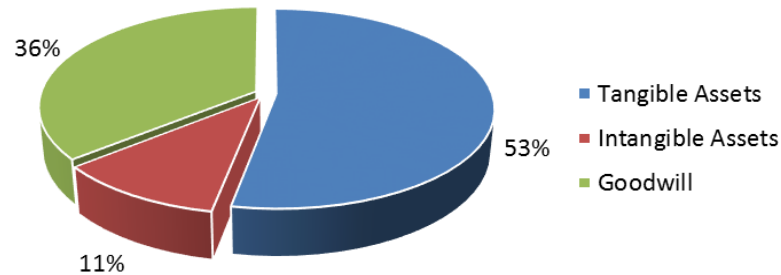


- Mining, Wholesale Trade and Construction have the highest proportion of tangible assets compared to total assets among all industries.
- The highest proportion of tangible assets among total assets is identified in the Construction industry (58%).
- Construction and Mining both have the lowest percentage of intangible assets (21% and 24% respectively).

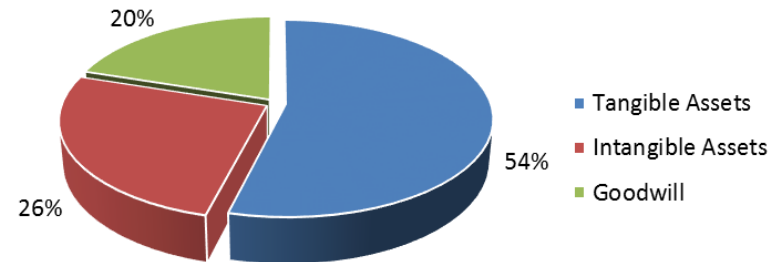
Statistics

Allocation across intangibles & industries (3/4)

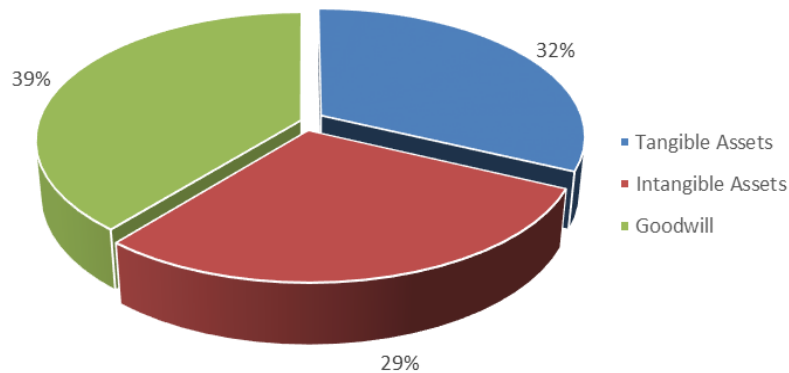
Public Administration



Agriculture, Forestry, Fishing



Finance, Insurance, Real Estate



- The Finance, Insurance and Real Estate industry has the second highest proportion of goodwill of all industries.
- The data of Public administration and Agriculture, Forestry, Fishing, is not representative because of the low amount of purchase price allocations included.

Statistics

Allocation across intangibles & industries (4/4)

- The most frequently identified intangibles are: marketing-, customer-, and technology related intangibles. Contract-, R&D-, and artistic related intangibles are observed less frequently⁽¹⁾.
- The proportion of marketing related intangibles is highest in Retail trade and Manufacturing.
- The proportion of contract related intangibles is highest in Transportation & Public Utilities and Finance, Insurance and Real estate industry.
- Manufacturing and services have the highest number of PPA's with R&D related intangibles.

Comparison	Count						Intangible as a % of Total Assets					
	Mark	Contr	Cust	Tech	Art	R&D	Mark	Contr	Cust	Tech	Art	R&D
Total	551	117	597	343	5	75						
Agriculture, Forestry, Fishing	-	1	-	-		-	-	-	4%	-	-	-
Construction	5	1	3	-	2	-	6%	1%	8%	4%	1%	-
Finance, Insurance, Real Estate	57	17	57	27	-	1	5%	22%	26%	10%	-	3%
Manufacturing	181	26	208	130	3	61	10%	14%	18%	20%	0%	29%
Mining	4	1	6	-	-	1	15%	1%	25%	-	-	-
Public Administration	1	-	1	1	-	1	5%	-	5%	1%	-	4%
Retail Trade	21	14	12	4	-	-	20%	20%	17%	6%	-	-
Services	207	24	218	162	-	9	5%	10%	21%	18%	-	28%
Transportation & Public Utilities	41	25	68	19	-	2	6%	26%	25%	5%	-	19%
Wholesale Trade	34	8	24	10	-	-	4%	17%	14%	8%	-	-

Statistics

Allocation across regions

- The majority of the purchase price allocations included in this study are published in US annual reports. For 2015, the proportion of US related PPA's increased from 81% in 2014 to 89%.
- The proportion of Canadian PPA's decreased from 5% to 2% in 2015 and the proportion of European PPA's showed an decrease from 8% in 2013 to 3% in 2014.
- The overall median purchase price increased for the United States and Canada, while Europe and other showed a decrease.
- The median purchase price is highest in Europe (USD 100 Million in 2014), followed by the US in 2015 (USD 67 Million).

Comparison	Number of transactions				Median purchase price	
	2015		2014		2015	2014
	#	% of total	#	% of total	thousands	thousands
United States	339	89%	474	81%	66,890	44,748
Canada	6	2%	29	5%	57,355	17,538
Europe	13	3%	49	8%	42,896	100,231
Other	21	6%	31	5%	19,213	19,847
Total	379	100%	583	100%	53,759	44,300

Statistics

Useful life per intangible asset

- The number of PPA's that disclosed the economic useful life increased by 6% (from 45% in 2014 to 51% in 2015).
- In 2015, the highest economic useful life was observed for customer-related intangibles with a median of 6.3 years. The lowest economic useful life was observed for marketing-related intangibles with a median of 4 years.
- When comparing 2015 to 2014, a few changes can be observed. In 2015, the median economic useful life of marketing related and technology related intangibles remained the same (4 years and 5 years respectively). The median economic useful life of customer-related intangibles increased from 6 to 6.3 years and the median economic useful life of contract-related intangibles decreased from 5.3 to 5 years.

# PPA with useful life disclosure	2015		2014	
Comparison	#	%	#	%
Total PPA's	379	100%	585	100%
Total PPA's with disclosed useful life	195	51%	261	45%

Interquartile range (in years)	2015			2014		
Comparison	Lower	Median	Upper	Lower	Median	Upper
Marketing- related	2.0	4.0	5.0	2.0	4.0	5.0
Contract related intangible assets	3.0	5.0	9.0	3.0	5.3	13.3
Customer related intangible assets	2.0	6.3	12.0	2.0	6.0	12.0
Technology related intangible assets	3.0	5.0	7.0	3.0	5.0	7.0

Statistics

Useful life per intangible asset and industry

- The economic useful life attributed to marketing related intangibles is highest in the Retail and Wholesale trade industries (5 years) and lowest in the Manufacturing industry and Transportation & Public Utilities (3 years).⁽¹⁾
- The economic useful life attributed to customer related intangibles is highest in the Transportation and Public utility industry (6.5 years) and lowest in Finance, Insurance, Real Estate industry (4 years)⁽²⁾
- The economic useful life of 5 years attributed to Technology related intangibles is similar for 7 out of 10 included industries.
- For some combinations of industries and useful life categories the amount of PPA's was too low to make any useful comments. This mostly concerns Artistic and R&D related intangibles.

	Marketing	Contract	Customer	Technology	Artistic	R&D		Marketing	Contract	Customer	Technology	Artistic	R&D	
	Count of PPAs with eco. useful life							Median Economic useful life (years)						
Agriculture, Forestry, Fishing	3	1	10	3	-	1		1.5	5	5	5	-	7	
Construction	5	-	4	4	-	-		3	-	2	5	-	-	
Finance, Insurance, Real Estate	40	11	41	19	-	1		4	5.5	4	5	-	3	
Manufacturing	125	31	270	137	7	4		3	5	6	5	2	4	
Mining	3	-	6	3	-	-		5	5	7	3.5	-	-	
Public Administration	1	-	1	1	-	-		2	-	6	1	-	-	
Retail Trade	24	-	18	20	-	-		5	20	3.25	5	-	-	
Services	127	24	129	86	3	-		4	4	5	5	5	-	
Transportation & Public Utilities	37	6	49	9	1	1		3	5.5	6.5	5	2	5	
Wholesale Trade	22	14	14	4	-	1		5	10	5	3	-	-	
Total	387	87	542	286	11	8	Median Tot.	3.6	7.5	5.0	4.3	3.0	4.8	

⁽¹⁾ For the Agriculture, Forestry and Fishing, Construction, Mining and the public administration industry, the amount of observations is considered too low to arrive at representable statistics

⁽²⁾ For the Construction industry and the mining industry the amount of observations is considered too low to be included in the comments.

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