

Purchase price allocation study

December 2022

Table of Contents

- Introduction 3
- Criteria and methodology 4
- Statistics
 - Allocation based on transaction size 6
 - Allocation across industries 7
 - Allocation across intangibles 8
 - Allocation across industries and intangibles 9
 - Useful lives 12
 - Useful life per intangible asset 13
 - Useful life per intangible asset and industry 14
- Disclaimer 15
- About PPAlyser 16

Introduction

- We are proud to present the eleventh edition of our Purchase Price Allocation study. This study presents statistics on publicly disclosed purchase price allocation studies and economic useful lives for the years 2020 and 2021. The source of this analysis is the PPAAnalyser database. PPAAnalyser is a subscription database which contains financial details of publicly disclosed purchase price allocations, discount rates and impairments. Besides purchase price allocation data, PPAAnalyser also provides data on economic useful lives. For more information, visit www.ppanalyser.com.
- This analysis presents a selection of statistics. These include statistics for each industry, region and type of intangible. In addition you will find statistics on economic useful lives.
- Should you have any questions or comments, please do not hesitate to contact us, info@ppanalyser.com.

Criteria & Methodology

- The source used for this study is 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 PPA's included in the database was made based on the following criteria:
 - Year: 2020 and 2021
 - Financial information disclosed: only 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:
 - Marketing related intangible assets
 - Customer related intangible assets
 - Artistic related intangible assets
 - Contract related intangibles
 - Technology related intangibles
 - Research & Development related intangibles
- All amounts were converted to USD using a single exchange rate for 2020 and 2021.
- When analysing the proportion of tangible assets, intangible assets and goodwill compared to total assets, total assets is determined by summing up the value of each individual asset.

Criteria & Methodology

- We classified the PPAs and impairments into the following industry categories:
 - Agriculture, forestry and fishing
 - Construction
 - Finance, insurance and real estate
 - Manufacturing
 - Mining
 - Public administration
 - Retail trade
 - Services
 - Transportation and public utilities
 - Wholesale trade
- We segmented the allocation results across seven size categories (in USD x millions):
 - > 1,000
 - 500 - 1,000
 - 250 - 500
 - 100 - 250
 - 50 - 100
 - 25 - 50
 - < 25
- Consolidated statistics were determined based on percentages of the individual PPAs (i.e. not weighted).
- For economic useful lives a distinction is made between intangibles with definite and indefinite lifetimes. Both are disclosed and analysed separately.

Statistics

Allocation based on transaction size

- The median purchase price in 2021 increased significantly by 23.2% compared to 2020, from approximately USD 40.6 million to USD 50.1 million. The number of transactions also increased in 2021. Furthermore, it should be noted that transactions that occurred in 2021 are typically not all disclosed in the annual reports of 2021; therefore, a reporting delay exists and an even larger increase can be expected.
- Despite an increase in overall median purchase price, the purchase price of transactions for most categories decreased. Only the purchase price of transactions between USD 25 and 50 millions and transactions over USD 1,000 million increased by 0.4% and 6.4% respectively.
- The majority of the purchase price allocations included in this study are published in US annual reports. For 2021, the proportion of US-related PPAs increased by 9.0% compared to the previous year, to 82.0%. The portion of Asian PPA's decreased significantly from 6.1% in 2020 to 1.5% in 2021.

Comparison	Number of transactions			
	2021		2020	
	#	% of total	#	% of total
United States	383	82.0%	336	73.0%
Canada	54	11.6%	55	12.0%
Europe	20	4.3%	28	6.1%
Asia	7	1.5%	28	6.1%
Other	3	0.6%	13	2.8%
Total	467		460	

	Transactions		Median PP (x 1000)		
	2021	2010	2021	2020	% change
PP > 1,000	33	26	2,993,810	2,813,899	6.4%
500 < PP < 1,000	24	22	659,085	712,450	-7.5%
250 < PP < 500	50	38	325,233	338,333	-3.9%
100 < PP < 250	63	58	147,420	150,703	-2.2%
50 < PP < 100	64	68	68,173	74,221	-8.1%
25 < PP < 50	72	65	34,365	34,266	0.4%
PP < 25	161	183	7,939	9,127	-13.0%
Total	467	460	50,103	40,622	

Statistics

Allocation across industries

- The median purchase price of all transactions increased in 2021 to approximately USD 50.1 million (23.2%).
- Most transactions are observed in the services sector, with 41.1% of the total amount of recorded transactions in 2021. The second-largest sector is the manufacturing sector, accounting for 37.3% of the total.
- When looking at the median purchase price, the most statistically significant increase can be observed in the Wholesale Trade industry (383.5%). The most significant decrease can be observed in the Transportation & Public Utilities industry (-53.2%).*

	Number of transactions				Median purchase consideration		
	2021	% of PPA's 2021	2020	% of PPA's 2020	2021	2010	% change
All industries	467	100%	460	100%	50,103	40,662	23.2%
Agriculture, Forestry, Fishing	-	-	-	-	-	-	-
Construction	11	2.4%	6	1.3%	38,932	-	-
Finance, Insurance, Real Estate	32	6.9%	23	5%	124,694	42,369	194.3%
Manufacturing	174	37.3%	175	38.0%	45,824	72,906	-37.1%
Mining	5	1.1%	3	0.7%	-	-	-
Public Administration	1	0.2%	-	-	-	-	-
Retail Trade	20	4.3%	8	1.7%	47,326	-	-
Services	192	41.1%	213	46.3%	53,219	26,604	100.0%
Transportation & Public Utilities	22	4.7%	20	4.4%	37,135	79,417	-53.2%
Wholesale Trade	10	2.1%	12	2.6%	175,672	36,334	383.5%

Statistics

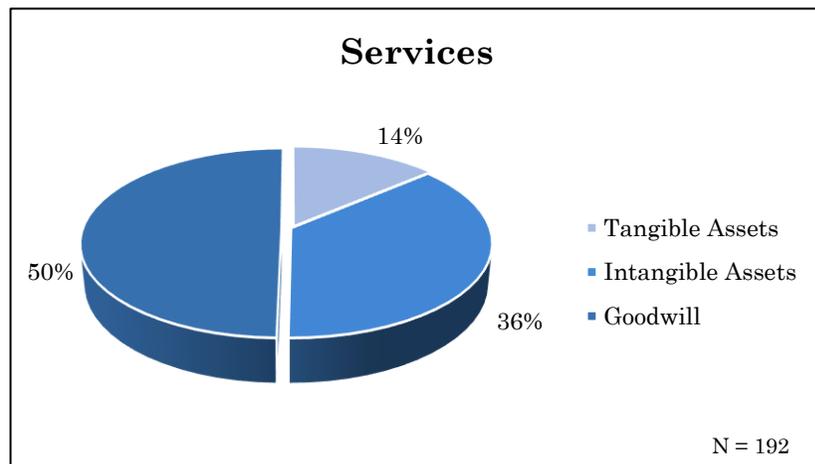
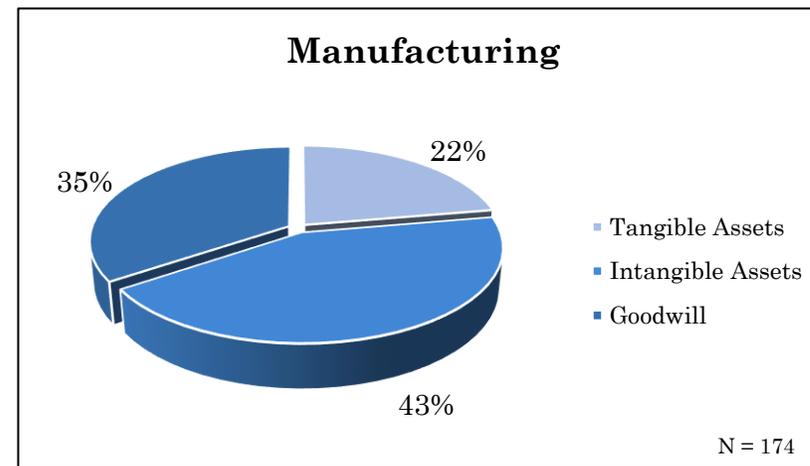
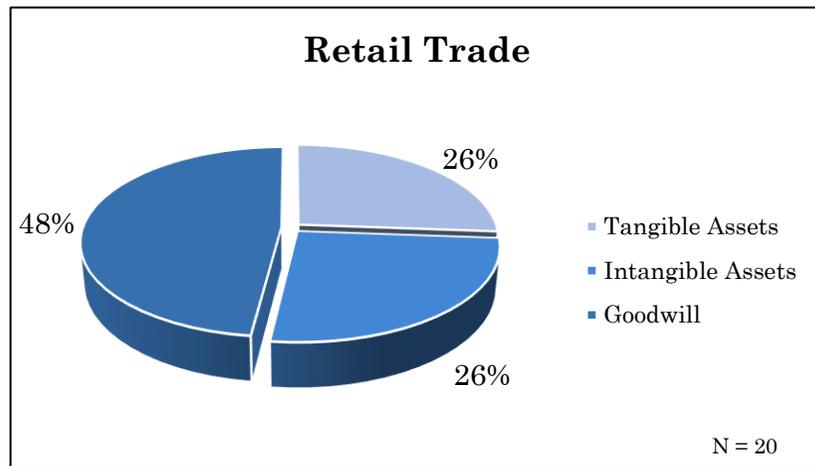
Allocation across intangibles

- Overall, the proportion of intangible assets (incl. goodwill) in relation to total assets increased across most asset class sizes, with an average increase of 1.85% between all asset class sizes. The most significant increase can be observed for transactions with assets valued between USD 50 million and 100 million 7.6%).
- In most transactions, a reduction of the percentage of intangible assets (excl. goodwill) appears to be correlated with a rise in the percentage of goodwill.
- The total proportion of intangible assets (excl. goodwill) in relation to total assets increased by 1.37% on average.
- The total proportion of goodwill in relation to total assets increased by 3.07% on average.

	Int. asset % of total assets			Goodwill as % of total assets			Total Int. (incl. Goodwill) as % of total assets		
	2021	2020	% change	2021	2020	% change	2021	2020	% change
Total assets > 1,000	29.8%	33.5%	-11.2%	45.9%	44.5%	3.2%	75.7%	78.0%	-3.0%
500 < Total assets < 1,000	31.3%	39.2%	-20.0%	52.5%	43.6%	20.4%	83.8%	82.8%	1.3%
250 < Total assets < 500	34.6%	30.7%	12.8%	44.4%	44.4%	-	79.1%	75.1%	5.2%
100 < Total assets < 250	36.7%	36.7%	-	43.2%	40.3%	7.0%	79.8%	77.0%	3.7%
50 < Total assets < 100	35.7%	38.0%	-5.9%	45.5%	37.5%	21.3%	81.2%	75.5%	7.6%
25 < Total assets < 50	40.9%	32.8%	24.5%	34.8%	45.7%	-23.9%	75.6%	78.5%	-3.7%
Total assets < 25	44.0%	40.2%	9.6%	34.8%	37.2%	-6.5%	78.8%	77.4%	1.8%
Average diff			1.37%			3.07%			1.85%

Statistics

Allocation across intangibles & industries (1/2)

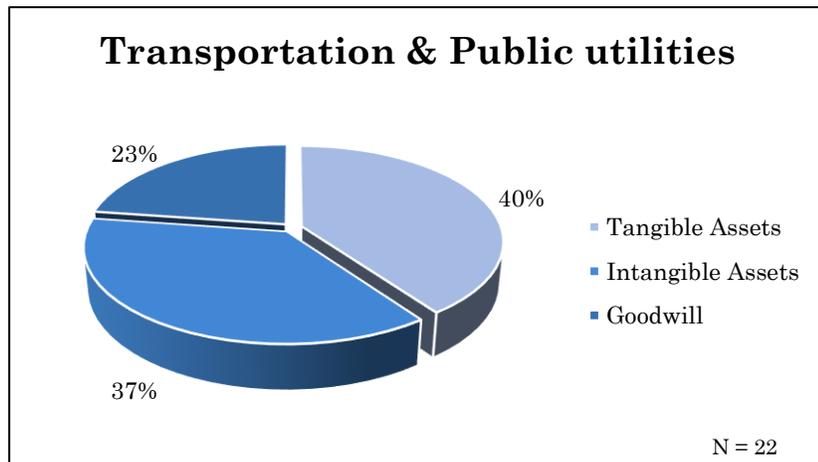
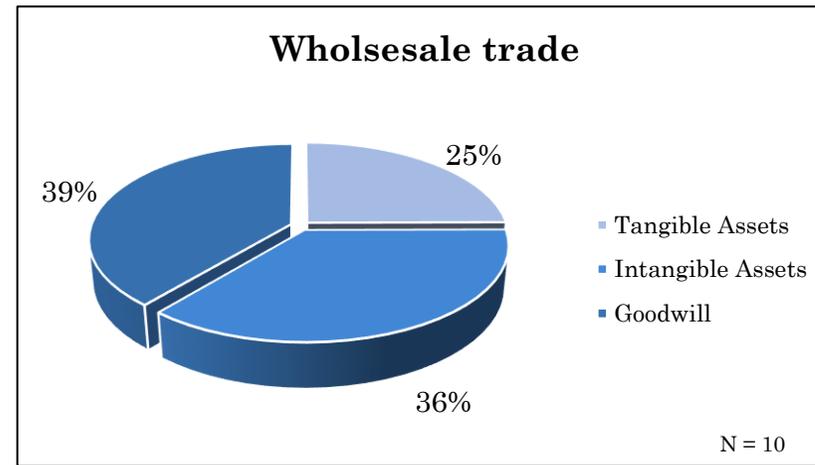
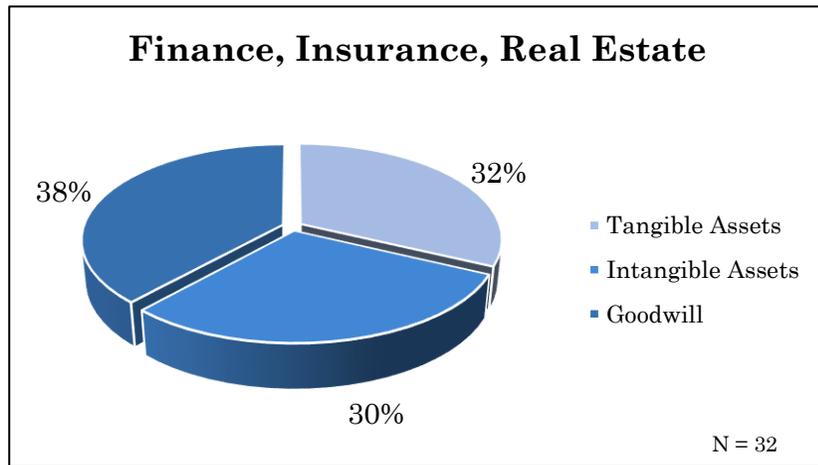


- The industries with the highest proportion of intangible assets compared to total assets are the manufacturing industry (43%), the transportation industry (37%) and services industry (36%).
- The industries with the highest proportion of goodwill compared to total assets are the services industry (50%), the retail trade industry (48%), and the wholesale industry (39%)

- Observations based on less than 10 transactions were not taken into account for this analysis.

Statistics

Allocation across intangibles & industries (2/2)



- The industries with the highest proportion of tangible assets compared to total assets are the transportation & public utilities industry (40%), the finance, insurance, and real estate industry (32%), and the retail trade industry (26%). The industry with the lowest proportion of tangible assets to total assets is the services industry, with 14%.

Statistics

Overview allocation across intangibles & industries

- The most frequently identified intangibles are customer, marketing and technology related intangibles. Contract, R&D and artistic related intangibles are observed less frequently.
- The proportion of marketing related intangibles to total assets is highest in the retail trade industry (17.2%) and manufacturing industry (10.6%).*
- The proportion of customer related intangibles to total assets is highest in the transportation & public utilities (26.6%), and Finance, Insurance and real estate industry (23.5%).*
- The proportion of technology related intangibles to total assets is highest in the manufacturing (19.5%) and services industry (17.4%).

2021	Count						Intangible as a % of Total Assets					
Comparison	Marketing	Customer	Technology	Contract	R&D	Artistic	Marketing	Customer	Technology	Contract	R&D	Artistic
Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-	-	-
Construction	9	9	4	-	-	-	-	-	-	-	-	-
Finance, Insurance, Real Estate	20	28	14	4	1	-	4.6%	23.5%	11.9%	-	-	-
Manufacturing	123	119	76	43	17	4	10.6%	17.1%	19.5%	47.2%	21.3%	-
Mining	1	2	2	4	-	-	-	-	-	-	-	-
Public Administration	-	-	-	-	-	-	-	-	-	-	-	-
Retail Trade	11	10	5	6	-	2	17.2%	10.8%	-	-	-	-
Services	138	151	120	23	6	5	7.9%	20.8%	17.4%	17.8%	-	-
Transportation & Public Utilities	13	18	6	3	-	-	2.2%	26.6%	-	-	-	-
Wholesale Trade	9	9	4	-	-	1	-	-	-	-	-	-
Total	324	346	231	83	24	12						

Statistics

Useful lives

- The relative number of PPAs with a disclosed economic useful life increased with 3.9% (from 51.1% in 2020 to 54.0% in 2021).
- The portion of indefinite useful lives increased from 3.4% of the useful lives in 2020 to 5.2% in 2021.
- Indefinite useful lives are not included in further analysis of useful lives data.

# PPA with useful life disclosure	2021		2020	
Comparison	#	%	#	%
Total PPA's	467	100%	460	100%
Total PPA's with disclosed useful life	252	54.0%	235	51.1%

Useful lives (in)definite	2021		2020	
Comparison	#	%	#	%
Definite useful lives	603	94.8%	604	96.6%
Indefinite useful lives	33	5.2%	21	3.4%
Total	636	100%	625	100%

Statistics

Useful life per intangible asset

- In 2021 the highest economic useful life was observed for contract related intangibles, with a median of 10 years.*
- When comparing 2021 to 2020, a few changes can be observed. The median economic useful life of customer related intangibles decreased by ~7 months, whereas the median economic life for all other intangibles remained equal. While the median of contract related intangibles remained equal, the lower and upper quartile of contract related intangibles increased.

Interquartile range (in years)	2021				2020			
Comparison	Lower	Median	Upper	Count	Lower	Median	Upper	Count
Marketing- related	3.0	5.0	10.0	156	3.0	5.0	10.0	158
Customer related intangible assets	5.0	9.4	12.0	204	5.0	10.0	14.0	196
Artistic related intangible assets	-	-	-	4	-	-	-	5
Contract related intangible assets	8.5	10.0	15.0	26	5.0	10.0	13.5	20
Technology related intangible assets	5.0	6.0	10.0	129	5.0	6.0	10.0	142
R&D related intangible assets	-	-	-	5	-	-	-	3

- Observations based on less than 10 transactions were not taken into account for this analysis.

Statistics

Useful life per intangible asset and industry

- The economic useful life attributed to marketing related intangibles is highest in the manufacturing and finance, insurance, and real estate industry (8.5 and 7.25 years respectively) and lowest in the services industry (4 years).*
- The economic useful life attributed to customer related intangibles is highest in the manufacturing industry (10 years) and lowest in the services industry (8 years).
- The economic useful life attributed to technology related intangibles is highest in the manufacturing industry (7 years) and lowest in the services industry (5 years).

	Marketing	Customer	Technology	Contract	R&D	Artistic	Marketing	Customer	Technology	Contract	R&D	Artistic
2021	Count of PPAs with eco. useful life						Median Economic useful life (years)					
Agriculture, Forestry, Fishing	-	-	-	-	-	-	-	-	-	-	-	-
Construction	4	7	2	-	-	-	-	-	-	-	-	-
Finance, Insurance, Real Estate	12	20	6	1	-	-	-	-	-	-	-	-
Manufacturing	61	79	51	12	4	2		10.0	6.5			
Mining	0	-	-	-	-	-	7.3	8.8	4.6	99.0		
Public Administration	-	-	-	-	-	-	8.5	10.0	10.0	10.0	8.8	12.5
Retail Trade	4	4	2	1	-	1						
Services	66	80	63	10	1	1	-	-	-	-	-	-
Transportation & Public Utilities	7	9	3	2	-	-	7.5	4.5	5.0	10.0		7.0
Wholesale Trade	2	5	2	-	-	-	4.0	8.0	5.0	8.5	3.0	3.0
Total	156	204	129	26	5	4	4.0	7.0	4.0	10.3		

- Observations based on less than 10 transactions were not taken into account for this analysis.

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About PPAlyser

PPAnalyser is an online subscription database developed and owned by Bridgeton Analytics B.V., a limited liability company based in Amsterdam, the Netherlands. Bridgeton Analytics develops, markets and distributes financial Analytics. Its main product is PPAlyser, an online subscription database that includes data of over 10,000 purchase price allocation studies disclosed between 2007 and 2022. For more information visit www.ppanalyser.com.