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Intangible assets and company value – An analysis based on different Stock indices

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1. Methodology

Intracom used for the current analysis the patent search and analysis tool “Orbis Intellectual Property” from Bureau van Dijk¹ which combines company and patent information for intellectual property management and strategy. Orbis IP links 115 million patents on about 300 million companies.

The data selected for analysing the equities listed in the indices was

From balance sheet of the companies:

- Total assets
- Current market capitalisation
- Intangible fixed assets
- Other Intangible Assets

The data was enriched with further 2 datasets

- Patent values of the alive patent portfolio
- Enterprise value, calculated on multiple of EBITDA of similar companies

for the year 2019.

Companies which did not deliver appropriate data in their balance sheets were not analysed, therefore the total amount on companies was reduced to:

	S&P 500	Nikkei 300	Stoxx600
Equities listed in index	499	300	596
Equities analysed in this study	378	270	457

The patent valuation was performed by applying the indicator based market analogy method from InTraCoM. Here all patents and utility models are analysed by taking different fixed indicators into account, applying mathematical algorithms and interdependencies. Within the method there are up to 26 indicators used for a full automated patent valuation (Autorating). The indicators cover the fields of Assignee, Environment, Technology and Legals of each IP. Basis for the value calculation are reference values of traded patents in the past (market analogy approach) having a similar indicator pattern to the patent that is valued (reference values)². The calculated values are an external market view on the patent portfolio. **This means that they do not necessarily have to correspond to income values.**

The market analogy approach also takes the maturity of a patent strongly into account. Patents being close to their end of life (i.e. if the remaining utilization period is only 12 months or less) are decreasing in value disproportionately. This takes into account that a patent that is intended to be sold needs a certain time of being transferred and finally utilized by a potential buyer.

¹ <https://www.bvdinfo.com/en-gb/our-products/data/international/orbis-intellectual-property>

² Kiehne, D.-O.: Automated patent valuation: background and main questions; Stuttgart, 02.2016; http://www.media.intracomgroup.de/WP-Patentvaluation_with_indicators.pdf

2. Aim of the study

The aim of the study is to determine the share of the intangible assets of a company related to other assets or market cap.

3. Results

The shares of the intangible assets related to other assets in the company are as follows:

Index	Ratio: Average Total Intangible assets/Enterprise value	Ratio: Average Total Intangible assets/Total assets	Ratio: Average Total Intangible assets/market capitalisation	Ratio: Average Total Intangible assets/tangible fixed assets
STOXX600	29%	31%	37%	669%
Nikkei300	23%	18%	29%	126%
S&P 500	24%	34%	31%	499%

This means that on average 20-30% of the enterprise value are based on intangible assets. Related to the market cap the ratio is higher, approx. 30-40% and related to the tangible assets the ratio is in average 130-700% much higher.

The equities in the indices having high ratios for every single key indicator are (Top10):

Index: STOXX600

<u>Total Intangible assets</u> Enterprise value		<u>Total Intangible assets</u> Total assets	
NOKIA OYJ	165%	KONINKLIJKE PHILIPS N.V.	118%
PEUGEOT S.A.	157%	INFORMA PLC	88%
BOLLORE	137%	PADDY POWER BETFAIR PUBLIC	88%
EXOR N.V.	135%	BRITISH AMERICAN TOBACCO P.L.C.	85%
SPIE SA	132%	RECKITT BENCKISER GROUP PLC	81%
MICRO FOCUS INTERNATIONAL PLC	125%	MICRO FOCUS INTERNATIONAL PLC	81%
MERCK KGAA	122%	HEXAGON AB	80%
BRITISH AMERICAN TOBACCO P.L.C.	122%	GVC HOLDINGS PLC	77%
FIAT CHRYSLER AUTOMOBILES N.V.	121%	AMADEUS IT GROUP, S.A.	77%
TECHNIPFMC PLC	117%		

<u>Total Intangible assets</u> Market capitalisation		<u>Total Intangible assets</u> Tangible fixed assets	
TELECOM ITALIA S.P.A.	500%	PORSCHE AUTOMOBIL HOLDING SE	36854%
CASINO GUICHARD-PERRACHON SA	291%	INFORMA PLC	13552%
EXOR N.V.	243%	GVC HOLDINGS PLC	9460%
BOLLORE	208%	MICRO FOCUS INTERNATIONAL PLC	9414%
MERCK KGAA	205%	ATLANTIA S.P.A.	9072%
EIFFAGE	168%	BARRATT DEVELOPMENTS P L C	7691%
SPIE SA	166%	KLEPIERRE SA	6520%
BRITISH AMERICAN TOBACCO P.L.C.	165%	WOLTERS KLUWER NV	6155%
HERA SPA	154%	RELX PLC	5269%
REXEL S.A.	150%	DELIVERY HERO SE	5248%

Index: Nikkei300

Total Intangible assets Enterprise value		Total Intangible assets Total assets	
FUJITSU LIMITED	250%	TDK CORPORATION	162%
NEC CORPORATION	225%	BROTHER INDUSTRIES LTD	138%
TDK CORPORATION	202%	CANON INC.	121%
BROTHER INDUSTRIES LTD	151%	FUJITSU LIMITED	104%
PANASONIC CORPORATION	143%	OLYMPUS CORP.	94%
NIKON CORPORATION	128%	PANASONIC CORPORATION	94%
FUJIFILM HOLDINGS CORP.	127%	TOKYO ELECTRON LIMITED	78%
HITACHI, LTD.	122%	NEC CORPORATION	76%
RICOH CO LTD	121%	TOKYO OHKA KOGYO CO LTD	68%
CANON INC.	115%	FUJIFILM HOLDINGS CORP.	68%

Total Intangible assets Market capitalisation		Total Intangible assets Tangible fixed assets	
NIPPON SHEET GLASS CO LTD	264%	M3, INC.	3272%
TDK CORPORATION	236%	JAPAN EXCHANGE GROUP INC.	1951%
PANASONIC CORPORATION	235%	DENA CO LTD	1412%
NEC CORPORATION	199%	RECRUIT HOLDINGS CO.,LTD.	948%
RICOH CO LTD	195%	BROTHER INDUSTRIES LTD	810%
FUJITSU LIMITED	192%	RAKUTEN INC	798%
BROTHER INDUSTRIES LTD	165%	SONY CORPORATION	773%
KOBE STEEL LIMITED	154%	TOKYO ELECTRON LIMITED	751%
CANON INC.	134%	RICOH CO LTD	712%
HITACHI, LTD.	132%	TREND MICRO INCORPORATED	659%

Index: S&P 500

<u>Total Intangible assets</u> Enterprise value		<u>Total Intangible assets</u> Total assets	
BAKER HUGHES A GE COMPANY	234%	QUALCOMM INC	169%
ALLERGAN PLC	137%	ALLERGAN PLC	90%
NEWS CORPORATION	135%	IHS MARKIT LTD.	89%
DISH NETWORK CORPORATION	132%	ANALOG DEVICES INC	89%
DISCOVERY, INC.	129%	BOSTON SCIENTIFIC CORP	88%
TECHNIPFMC PLC	117%	ROPER TECHNOLOGIES, INC.	87%
MOLSON COORS BREWING COMPANY	108%	KRAFT HEINZ COMPANY (THE)	87%
XEROX CORP	105%	CBOE GLOBAL MARKETS INC.	84%
COTY INC.	95%	DANAHER CORP	84%
PERRIGO COMPANY PUBLIC LIMITED COMPANY	88%	DISH NETWORK CORPORATION	81%
		HILTON WORLDWIDE HOLDINGS INC.	81%

<u>Total Intangible assets</u> Market capitalisation		<u>Total Intangible assets</u> Tangible fixed assets	
DISCOVERY, INC.	562%	ROPER TECHNOLOGIES, INC.	10343%
DISH NETWORK CORPORATION	318%	CBOE GLOBAL MARKETS INC.	5817%
CENTURYLINK, INC.	291%	ALLERGAN PLC	5118%
KRAFT HEINZ COMPANY (THE)	246%	IQVIA HOLDINGS INC.	4091%
BAKER HUGHES A GE COMPANY	209%	ACTIVISION BLIZZARD, INC.	3763%
COTY INC.	197%	FLEETCOR TECHNOLOGIES, INC.	3735%
MOLSON COORS BREWING COMPANY	187%	NETFLIX, INC.	3598%
ALLERGAN PLC	185%	DISCOVERY, INC.	3219%
MYLAN N.V.	169%	FIDELITY NATIONAL INFORMATION	3149%
CVS HEALTH CORPORATION	164%	HILTON WORLDWIDE HOLDINGS INC.	3084%
NEWS CORPORATION	160%	ANSYS INC	2900%

4. Conclusion

A big share of intangible assets in the company value is obvious. Nowadays companies do not need to have high tangible assets to generate big revenues and profits. Uber has no cars, booking no Hotels and twitter no printing machines. The big question remains on how to measure the intangible assets, and if the amount on intangibles a company is claiming in the balance sheet represents a fair market value. An answer to that question can give the measurement of the patent value for each company and the comparison of the ratio to their claimed fixed intangible assets. Of course there has to be defined which companies really need patents for their business models, and which need other intangible assets like trademarks, copyright or intellectual capital. But patents are "the most tangible under the intangibles" and can be monetized due licensing or securitized as collateral. Therefore a bid dive into the patent analysis of a company makes sense

and is highly recommended because equities can be determined which are underrated due the fact of the existing “hidden assets” in their company value.

The analysis for the different indices shows the Top 10 with the highest ratio of patent value related to their fixed intangible assets:

Stoxx600

Total patent portfolio value	
Intangible fixed assets	
ARGENX SE	127385%
SVENSKA CELLULOSA AB SCA	6559%
GALAPAGOS N.V.	3422%
SILTRONIC AG	2060%
THE SWATCH GROUP LTD.	1097%
STMICROELECTRONICS N.V.	811%
PORSCHE AUTOMOBIL HOLDING SE	675%
COVESTRO AG	438%
OSRAM LICHT AG	393%
SBM OFFSHORE N.V.	356%

S&P 500

Total patent portfolio value	
Intangible fixed assets	
FORD MOTOR CO	1208%
VERTEX PHARMACEUTICALS	1157%
MICRON TECHNOLOGY INC	564%
NIKE INC	559%
NEKTAR THERAPEUTICS	551%
QUALCOMM INC	484%
XILINX INC.	391%
FORTINET INC	390%
ADVANCED MICRO DEVICES INC	351%
VERISIGN INC	281%

Total patent portfolio value
Intangible fixed assets

TOKYO OHKA KOGYO CO LTD	24736%
SHIN-ETSU CHEMICAL CO., LTD.	7805%
NGK INSULATORS LTD.	6543%
TOKYO ELECTRON LIMITED	5855%
NIPPON SHOKUBAI CO LTD	3324%
DIC CORP.	2933%
YAMAHA CORPORATION	2575%
FANUC CORPORATION	2573%
UBE INDUSTRIES LIMITED	2506%
MITSUBISHI GAS CHEMICAL	2475%

5. About the Author



Prof. Dipl.-Ing. Andreas Zagors is founder and management Partner of the Bonn based InTraCoM Group (Germany). He was participating in the first standard for patent valuation and is doing research in patent valuation for more than 24 years.

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