

Analysis of royalty rates for patent license

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The source of information provided in this report has been gathered from public financial records, news releases, and other articles and references, and also includes all of the Licensing Economics Review (LER) issues. While we believe the sources to be reliable, this does not guarantee the accuracy or completeness of the information provided.

1. Global approach of royalty rates benchmarking

Transfer of intangible goods between related parties usually proceeds in three different ways: contribution to capital, sale or license. Probably the most common, yet the most challenging to transfer pricing issue is licensing.

Transfer pricing is the process encouraged by tax authorities of setting appropriate and market-based values and royalty rates for use and acquisition of intangible assets. Most major governments have stated fairly similar regulations for appropriate transfer pricing, consistently referring to market-based methods to establish the royalty rate or transfer price.

When intangible assets are transferred and used within a group of related entities, determining “arm's length” royalty rates for tax purpose requires therefore a search for comparable royalty rates.

OECD's Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations also touch upon a question of transfer of intangible goods between related parties recognizing, at the same time, serious difficulties with determining arm's length pricing of such properties.

a. Licensing Royalty Rates Characteristics

A commonly used way of transferring intangibles between related parties is through the use of exclusive or non-exclusive license agreement. When license rights are granted to the licensee (license is being sold), tax laws in most countries require that the owner receives a fair market price of the intangible. Such price is usually established as one-off fee, annual fee or royalty rate. There are, probably, as many ways to structure such payments as there are licensing agreements. Some of the more common forms are:

- A one-off lump sum payment to the licensor.
- A fixed annual fee with no royalty.
- An ongoing royalty based only on a percentage of licensee's sales of the licensed products with no advanced or guaranteed minimum royalty payments.
- An ongoing royalty in a fixed amount based on each licensed product sold with no advanced or guaranteed minimum royalty payments.
- An ongoing royalty based only on a percentage of licensee's sales of the licensed products with either or both an advance against royalties and an annual minimum royalty.
- An ongoing royalty based on the number of 'hits' that occur on a Website featuring the licensed property.

- A combination of the above.

Despite the multiplicity of different possibilities, the royalty based on a percentage of licensee's sales is, by far, the most popular charge. The level of such royalty payment, to satisfy the arm's length principal, should broadly mirror the actual conditions and scope of the licence. The most important factors determining royalty payments level are:

- Type of industry (innovative or traditional).
- Competition (competitive environment or monopoly).
- Geographical scope of the license.
- The length of time when the licensee may use the property.
- Scope of uses to which the licensee may put the property.
- The exclusivity of the license.
- Amount and type of technical assistance received from the licensor.
- Sub-licensing rights.

Taking into consideration the above-mentioned factors we can easily indicate the relationship between the level of royalty payments. For example, an exclusive license usually carries a royalty rate significantly higher than a non-exclusive one and a license that grants the licensee monopoly or near-monopoly should result in a higher royalty rate.

b. Defining an Arm's Length Royalty Rate

The most appropriate method for evaluation of arm's length royalty rate of intangibles is the Market Approach. In defining the arm's length royalty rate, it is crucial to identify, as precisely as possible, what property is to be licensed. Then the rights granted to the licensee and their relative value should be determined. When the property owner is involved in existing licensing programs with unrelated parties, or the licensee uses similar license granted by third party, the evaluation of a proper royalty rate is evident.

Significant difficulties occur when such comparable does not exist. As the optimal way to define an arm's length royalty rate is to refer to licenses granted or received between unrelated parties, the Market Approach is also required. Thus, related companies should consult an appropriate industry survey to review the state of the industry and commonly established royalty rates. Moreover, special consideration should be given to the particular products being licensed to insure that the royalty rate will be properly adjusted to the product.

Additional problems with defining an arm's length royalty rates can occur when the property is licensed between related parties. While this may not be an exact science, the Market Approach could govern the royalty rate as well. There are, however, a number of factors that must be taken into consideration. Besides the factors mentioned above that determine the level of royalty rates, related parties should consider such elements as: investment risk, net profits, market size, growth potential, etc.

c. Factors to be taken into account

Considering the fact that royalty licensing as a result of the transfer of intangibles between related parties is a common occurrence, OECD urges companies and tax authorities to give careful attention to the valuation of intangibles. Companies may have difficulty in demonstrating evidence that they took as much effort as possible to settle royalty rates at an arm's length level. But on the other hand, tax authorities should not use hindsight. However, both related companies and tax authorities share the same dilemma, however, tax authorities have to consider whether or not agreements between related parties are arm's length.

This transactional approach determines royalties with reference to licenses for comparable IP in comparable markets and circumstances. This approach is widely used for transfer pricing where it is referred to as the Comparable Uncontrolled Price Method (CUP).

The best comparable royalties are from arm's length licenses for the same IP in the same, or similar, markets ¹. If this is not possible, analysis of specific licenses for comparable IP, or industry norms, can provide guidance.²

When analyzing arm's length royalty rates for comparable IP, it is necessary to take account of the following factors.

- The similarities and differences between the subject IP and the benchmarked transactions. This covers the nature and application of the IP; its phase of development and commercial success; its strength relative to alternative property, and its expected useful economic life.
- The range of markets covered by the license.
- The comparability of the markets in which the IP was licensed. The earnings potential of a similar asset can vary significantly between jurisdictions due to different economic circumstances and competitive forces.
- The method of calculating the royalty.³ A headline royalty in a benchmark study might conceal adjustments to the royalty base that differ to the license of the subject IP.
- The impact of the terms and conditions of the comparable licenses. For instance, an exclusive license will typically have a higher royalty than a non-exclusive one, the duration of the license can influence the royalty as can other terms of the agreement which influence the rights and responsibilities of the licensee.

¹ See *Rude v. Wescott*, 180 U.S. 152 (1889) (referring to an established royalty rate based on the prior licensor practices). See also *Tektronix, Inc. v. United States*, 552 F.2d 343 (Ct. Cl. 1977) (preferring an established royalty rate when a pattern of prior licensing practices is evident.); and *T.J. Smith & Nephew Ltd. V. Parke, Davis & Co.*, 9 F.3d 979 (Fed. Cir. 1993) (stating that evidence of an established royalty for a patent in suit is one of the strongest measures of a reasonable royalty); *Trell v. Marlee Elecs. Corp.*, 912 F.2d 1443 (Fed. Cir. 1990) (discussing the standards for determining when an established royalty exists).

² In the U.S., the Courts have recently emphasized and reiterated that the IP in other license agreements must be "comparable" in order to rely on such agreements in a damages analysis. See *ResQnet.com v. Lansa*, 594 F.3d 860 (Fed. Cir. 2010).

³ U.S. Courts recently have criticized analyses that are "little more than a recitation of royalty numbers" requiring instead evidence as to how lump sum payments in other, comparable license agreements for example, were calculated. See *WordTech v. Integrated Network*, 609 F.3d 1308 (Fed. Cir. 2010).

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- Special circumstances that may have influenced the benchmarked royalties. For instance, if sales of the product incorporating the IP increase sales of other products, the licensee might agree to a low royalty.
- The extent of publicly available royalty rates varies by industry and category of IP, depending on the prevalence of licensing and need for disclosure. In situations where there are a large number of licensing agreements, an analysis can be made of the range of royalties within the industry.

d. Royalty rates across industries

A study of 2,279 licenses in fifteen industries ⁴ suggests that the median royalty in most industries is close to 5%. The grouping around 5% of average royalties in a wide range of industries is interesting, but not very informative. Median and average royalty rates have to be treated with caution as they can mask wide ranges within an industry.

As such, it must be taken into consideration that the minimum and maximum royalty rates may vary within an industry branch from 0,5 % to 25% (for Machine/ Tools) or even from 0,0% to 70 % (for Software), as it can be seen from the below comparative overview:

Royalty Rates Separated by Industry

Licensed Royalty Rates (Late 1980's - 2000)

Industry	No. of Licenses	Minimum Royalty Rate	Maximum Royalty Rate	Median Royalty Rate
Automotive	35	1.0%	15.0%	4.0%
Chemicals	72	0.5%	25.0%	3.6%
Computers	68	0.2%	15.0%	4.0%
Consumer Goods	90	0.0%	17.0%	5.0%
Electronics	132	0.5%	15.0%	4.0%
Energy & Environment	86	0.5%	20.0%	5.0%
Food	32	0.3%	7.0%	2.8%
Healthcare Products	280	0.1%	77.0%	4.8%
Internet	47	0.3%	40.0%	7.5%
Machine/Tools	84	0.5%	25.0%	4.5%
Media & Entertainment	19	2.0%	50.0%	8.0%
Pharma & Biotech	328	0.1%	40.0%	5.1%
Semiconductors	78	0.0%	30.0%	3.2%
Software	119	0.0%	70.0%	6.8%
Telecom	63	4.0%	25.0%	47.0%
Total	1,533	0.0%	77.0%	

⁴ Carried out by Analysis Group, using data from RoyaltySource®, as quoted by Russell Parr, 'Royalty Rates for Licensing IP'

It has further been carried out⁵ that technology-intensive sectors, that produce differentiated products generally register high gross margins and hence can afford higher royalty rates. Traditional sectors (like foodstuff), on the other hand, which produce general purpose goods can only obtain modest or low gross margins, and hence result in lower royalty rates.

An approach coupling industry-wide references and specific transaction is therefore the best solution to approach an arm's length royalty rate.

2. Comparative study of patents licensing rates in the medical industry

a. Our working method

We first tried to determine average royalty rates in the medical industry.

Various searches across various publications have led to no specific conclusion.

We therefore proceeded to an evaluation using various databases such as "Royaltyrange", where we searched for patent licenses related to specific fields.

Our search methodology was as follows:

- Identify patent license agreements for the same field of activity
- Identify the data of the different contracts to be analysed
- Determine contracts similar to our need
- Compare all the data collected
- Determine the usual royalty rate for the determined area

b. Industry's practice

We analysed **216** license agreements and selected only **12** that most closely corresponded to the objectives of our research. We have focused on agreements covering patents for catheters, medical apparel, and the more general medical devices sector.

Most of contracts found shows that the licensees license several different intellectual property rights at the same time, be it patents, trademarks, technologies, or copyrights.

According to the results of our research, in the licensing contracts granted to companies active in the fields described above, the licensors are paid between **0,5 and 25%** of the licensee's turnover.

⁵ carried out by J. E. Kemmerer, CPA, J. Lu, Applied Economica Consulting Group Inc., USA in "Profitability and royalty rates across industries: some preliminary evidence"

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The contracts obtained through this research are listed below. Additional information on these contracts can be found in the attachment.

The table below lists the relevant licensing agreements identified during our analysis:

Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
HYDROMER, INC.	Becton, Dickinson and Company, Inc.	Anti-bacterial bio-effecting medical material	License, Patent Non-exclusive license Territories: Worldwide	Licensor shall pay to licensee a royalty computed as the greater of the royalty calculated based on a percent or a fixed amount each quarter: 2.5% or \$ 5,000; If Licensor grants to any third party manufacturer a license under the licensed patent rights for a licensed product, then the royalties shall be reduced by licensor. Ref: RR20150819T02001
Edwards Lifesciences PVT, Inc.	3F Therapeutics, Inc.	Catheter-delivered heart valves and venous valves	Sublicense, License, Patent Exclusive license Territories: Worldwide	Licensor shall pay a royalty 4% of the net sales of any licensed product sold by licensee; Licensee shall pay 25% of the net sales of all products that are used in the surgical or venous field of use but that are actually used, with or without the direct involvement or prior knowledge of above the first 50 of such products sold by licensee. Ref: RR20130317T06013

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Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
Baxter Healthcare Corporation	Alsium Corporation	Medical treatment and heat exchange catheters	Know-how, License, Trademark, Patent Non-exclusive license Territories: Worldwide	Licensee shall pay to licensor royalties equal to 3.5% of net selling price for up to 10,000 units, 3% of net selling price for 10,001 – 25,000 units, 2.5% of net selling price for 25,001 – 50,000 units and 2% of net selling price over 50,000 units. <u>Other payments:</u> Licensee shall pay to licensor a license fee of \$100,000 payable as follows: \$5,000 – feasibility payment, \$20,000 on approval of license agreement, \$25,000 upon submission of PMA or 510 (k) to US. regulatory authority, \$25,000 on 1st commercial sale inside the U.S., \$25,000 on 1st commercial sale outside the U.S.; Licensee shall pay a minimum royalty of \$5,000 per calendar quarter. Ref: RR20170224T06001
SurModics, Inc.	Innercool Therapies, Inc.	Single-use, temporary catheter placed within the vascular system which is surface-treated with photo-reactive polyvinylpyrrolidone, photo-reactive heparin, diphot	Know-how, License, Trade secret, Patent Non-exclusive license Territories: Worldwide	Licensee shall pay to licensor earned royalties of 2,5% of net sales of licensed product sold in each calendar year on the first \$15,000,000, 2,25% of net sales on the next \$15,000,000 and 2% on net sales

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Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
		diquat (photo-reactive crosslinking compound) or any combination of these photo-reactive reagents		<p>over \$30,000,000.</p> <p><u>Other payments:</u> Licensee shall pay to licensor a quarterly minimum royalty of \$5,000 for a period from January 1, 2002 to December 31, 2002, \$10,000 for a period from January 1, 2003 to December 31, 2003, \$20,000 for a period from January 1, 2004 to December 31, 2004, and from January 1, 2005 and each year thereafter, licensee shall pay to licensor a minimum royalty of the prior year's quarterly minimum royalty adjusted by a percentage equal to the percentage change in the "Consumer Price Index For All Urban Consumers" for the prior calendar year; Licensee shall also pay to licensor a total of \$50,000 license fee as follows: \$25,000 upon execution of the attachment and \$25,000 upon first commercial sale of licensed product or two years from the date of execution of the attachment, whichever is earlier; Following the license granted by licensee to licensor, licensor shall pay to licensee a royalty of 5% based on sales that licensor receives from its</p>

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Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
				<p>sublicensees.</p> <p>Ref: RR20161116T04001</p>
Terumo Corporation	Flexmedics Corporation and Microvena Corporation	Guide wire	<p>License, Patent</p> <p>Non-exclusive license</p> <p>Territories: United States of America</p>	<p>One of the licensees shall pay to licensor a royalty of 7% of net selling price of each licensed product; One of the licensees shall pay to licensor a royalty of 7% of net selling price of licensed products and following royalties based on the net selling price of its own products: from 0 to current sales level - 8%, from current sales level to 4 times current sales level - 10%, from 4 times current sales level to 6 times current sales level - 15% and for greater than 6 times current sales level - a royalty of 16%.</p> <p><u>Other payments:</u> Licensees shall pay to licensor a total of \$175,000.</p> <p>Ref: RR20170821T09002</p>
Biophan Technologies, Inc.	Boston Scientific Scimed, Inc.	Vascular stents	<p>Sublicense, Know-how, License, Copyright, Technology, Patent</p> <p>Exclusive license</p> <p>Territories: Worldwide</p>	<p>3% royalty for drug coated vascular stents including coronary, neuro or peripheral applications of coated or uncoated stents, embolic protection devices, aneurysm coils and</p>

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Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
				<p>all other vascular implants and for auditory implants; 4% royalty for non-drug coated vascular stents including coronary, neuro or peripheral applications of coated or uncoated stents, embolic protection devices, aneurysm coils and all other vascular implants and RF ablation probes and ablation fluid; 5% royalty for biopsy needles, interventional guidewires, vascular catheters, pacemakers and implantable cardiac defibrillators.</p> <p><u>Other payments:</u> Licensee shall pay one-time payment of USD\$750,000; A total annual license maintenance payment of USD\$140,000 for the exclusive license and USD\$110,000 for the non-exclusive license; If licensee relinquishes a non-exclusive products category(ies) the USD\$110,000 amount may be proportionally reduced by USD\$50,000 for category 1, 7 and 8, reduced by USD\$25,000 for category 2, 3 and 4, reduced by USD\$100,000 for</p>

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Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
				category 6 and reduced by USD\$200,000 for category 5; All one-time milestone payments are equal to USD\$9,700,000; Licensee shall pay to licensor 50% of all sublicense income. Ref: RR20130423T01001
Medtronic, Inc., Medtronic VidaMed, Inc.	Urologix, Inc.	Radio frequency therapy system	License, Trademark, Copyright, Trade secret, Patent Exclusive license Territories: Worldwide	Licensee shall pay licensor an earned royalty of 8% of net sales during the 1st, and 10% during each contract year of the term thereafter. <u>Other payments:</u> Licensee shall pay to licensor the non-refundable license fee of \$1,000,000, annual license maintenance fee of \$65,000 and undisclosed minimum royalties; The maximum amount of the total payments other than the license maintenance fee, is \$10,000,000. Ref: RR20140321T05001
Marv Enterprises, LLC	Inverso Corp.	Stents and other related devices for extracorporeal treatment of blood	License, Patent Exclusive license Territories: Worldwide	Licensee shall pay to licensor a 5% royalty on fair market value of selling, leasing, using licensed products or performing services that use licensed

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Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
				products. <u>Other payments:</u> Licensee shall issue to licensor 617,037 shares of licensee's stock. Ref: RR20130225T02004
CS Medical Technologies, LLC	Pro Uro Care Inc.	Devices related to the treatment of benign prostatic hyperplasia, prostatitis, prostate cancer or any other conditions of urologic disorder which may be diagnosed, imaged or treated using a catheter-based microwave technology or sensor imaging system.	Know-how, License, Technology, Patent Exclusive license Territories: Worldwide	Licensee shall pay to licensor a royalty of 0.5% of the amount by which net sales of all devices sold or distributed during such calendar quarter exceeds \$500,000. Ref: RR20161208T06002
EchoCath, Inc.	EP MedSystems Inc.	Products which allow visualization of the heart's anatomy catheters inside the heart through the use of ultrasound imaging for electrophysiology applications such as mapping, ablation and internal cardioversion.	Know-how, License, Trademark, Technology, Patent, Other manufacturing intangibles Exclusive license Territories: Worldwide	Licensee shall pay to licensor a royalty of 2% of net sales of licensed products. Ref: RR20170622T07002
AGA Medical Corporation	Microvena Corporation	Endovascular filtration devices	Know-how, License, Trade secret, Patent, Other manufacturing intangibles Non-exclusive license Territories: Worldwide	Licensee shall pay to licensor a royalty of 5% of net sales of licensed products. Ref : RR20170814T01003

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Licensor	Licensee	Product	IP Rights Exclusivity Territories	Royalty rate
Mr. T. Fischell; Mr. R. Fischell, Mr. D. Fischell; IsoStent, LLC.	Cordis Corporation	Coronary stent	License, Patent Territorie: United States of America	Licensor and licensee shall a royalty of 1,00% of net sales on a country-by-country basis on each product manufactured, used, or sold. Ref : RR20190129T01502

Based on said results, we can consider that the royalty rates for the above-mentioned industry, and ranges from **0,5% to 25%** of gross revenues. More specifically, it appears that:

- the lowest royalty rate (**0,5%** of the amount by which net sales of all devices sold or distributed) is observed in a patent license contract relating to Medical devices from CS Medical Technologies, LLC
- the highest royalty rate (**25%** of the net sales of all products that are used in the surgical or venous field) is observed in a patent license relating to Catheter-delivered heart valves and venous valves from Edwards Lifesciences PVT, Inc.
- most of royalty rates revealed by our search are comprised between **3 and 7%**, also depending on the actual (net) revenues generated by the licensed products; compared to other searches we conducted, we note that the royalty rates we have been able to reveal in the present search are relatively close to each other, almost all comprised in this range.
- the average royalty rate is of **5,99 %**
- the median royalty rate is of **4 %**

Range	Royalty Rate
Maximum	25,00%
Average	5,99%
Median	4,00%
Minimum	0,50%

It's important to consider the calculation basis. If some royalty rates are calculated as a percentage of the sale price of the products or income realized with the products licensed, which is relatively similar in terms of calculation, other license agreements are calculated as a percentage of net realized profit.

It is also important to note that the rate of the lowest royalties we identified are often in perspective because they are accompanied by an "entrance fee" relatively considerable.

Finally, higher royalty rates may also explain when the license is granted exclusively.

3. Conclusion

We consider that there exists a relatively clear guidance showing that the anticipated royalty rates of **3 – 7 %** might be considered as corresponding to appropriate, considered the standard rates in the different industry and for these specific types of products, and the uncertainty related to the status of the intellectual property rights to be licensed as well as the non-exclusive status of the license.

Appendix 1: List of data analyzed related to worldwide license agreements.

c.f. attached file