

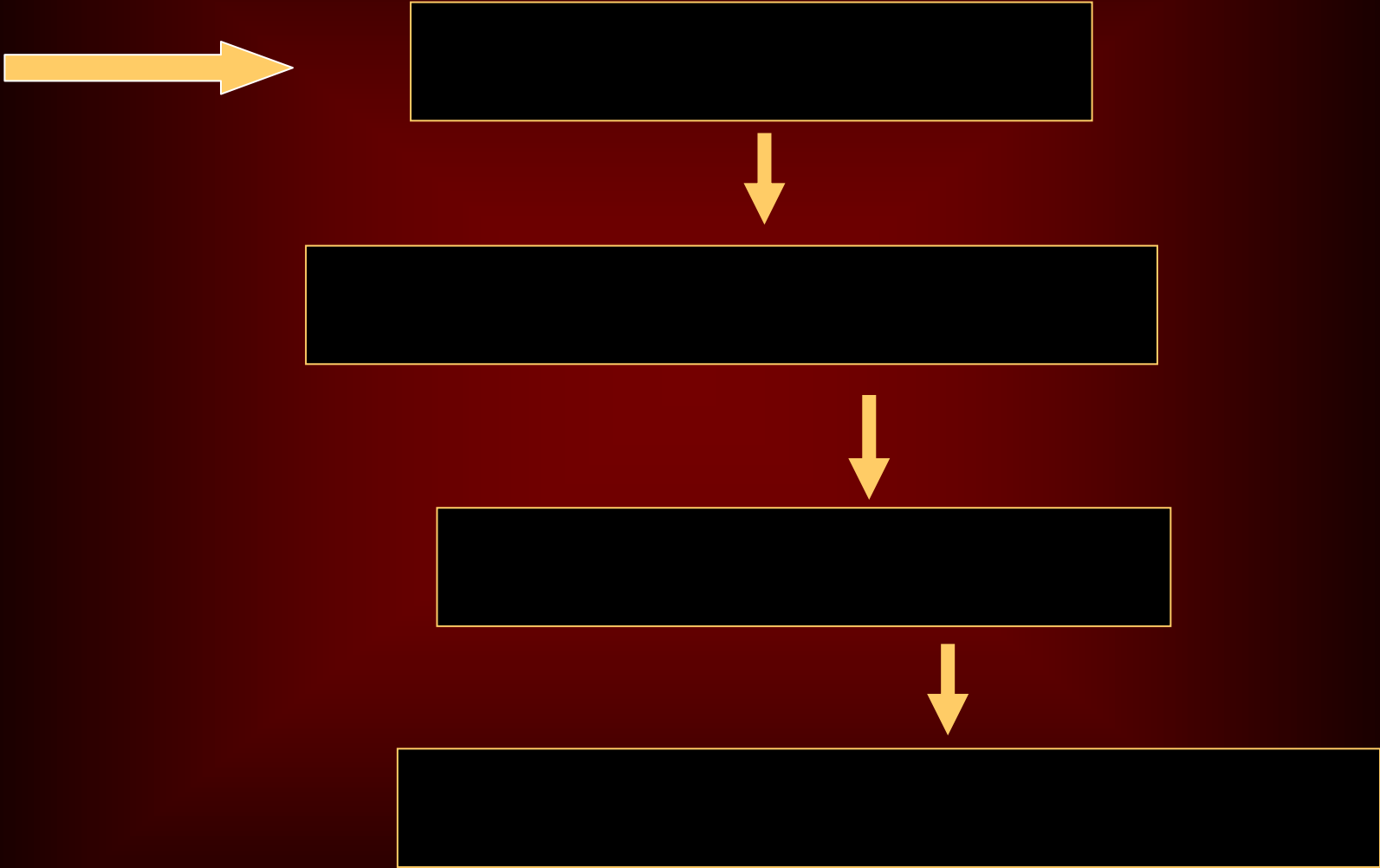
# Global Innovation Management and Strategies 4

## Business Strategies and the Importance of Intellectual Property Rights 1

# **Market Share/ Profit Rates /R&D Expenditures to Sales Revenue**

<b>Market Share</b>	<b>10 - 20%</b>	<b>20 - 30%</b>	<b>30 - 40%</b>	<b>40% -</b>
<b>Profit Rates</b>	<b>3.4%</b>	<b>4.8%</b>	<b>7.6%</b>	<b>13.2%</b>
<b>R&amp;D Exp./Sales</b>	<b>2.4%</b>	<b>2.8%</b>	<b>3.2%</b>	<b>3.6%</b>

# Virtuous Cycle of R&D





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# The Product Life Cycle (=PLC) of hit selling products

	less than 1 year	1- 2 Years	2-3 Years	3-5 Years	more than 5 Years	Total
before 1979	1.6	6.3	5.1	27.7	59.4	100
1980's	1.7	9.8	12.4	29.6	46.5	100
1990's	4.8	16.4	19.6	32.5	26.8	100
2000's	18.9	32.9	23.1	19.6	5.6	100

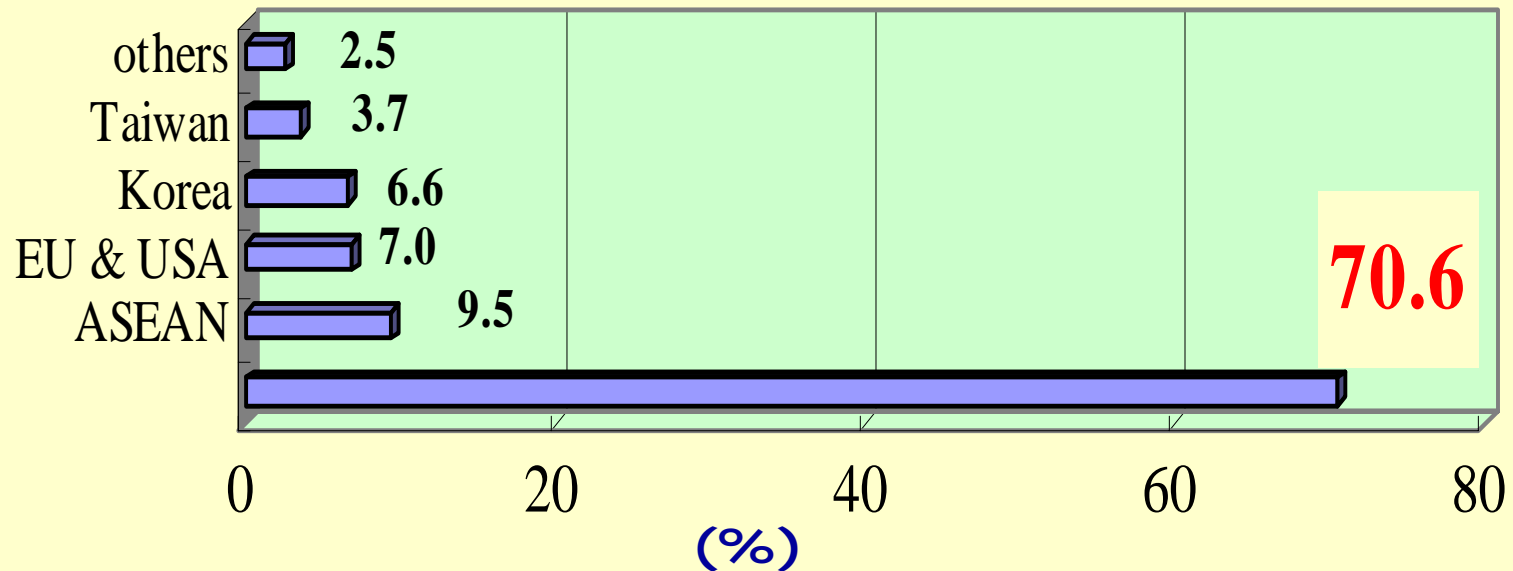
Source: SME Agency(2005), Chushokigyou Hakusho.

# Reasons why products got thrown off the market

	Appearances of Similar products with more competitive price	Changes of Customer preferences and life styles	Substitutes appeared	Appearances of Similar products with higher quality	Needs disappeared due to regulation related matters	Others	Total
before 1979	22.1	40.4	19.5	9.4	3	5.6	100
1980's	27.7	31.8	18.8	7.5	4	10.3	100
1990's	30.7	31.1	17.6	6.8	3.8	10.1	100
2000's	34.8	24.4	16.3	8.9	3.7	11.9	100

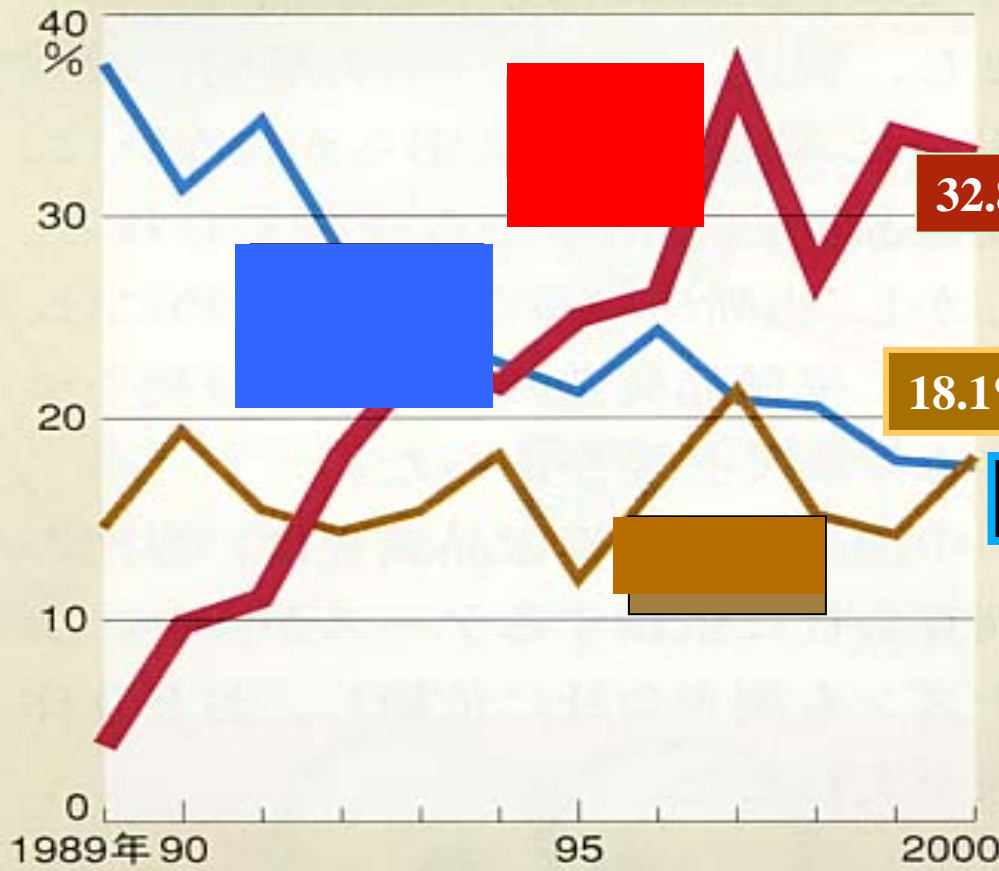
# 52% of S&M companies compete with imported products with competitive price

Nationalities and regions of competitors

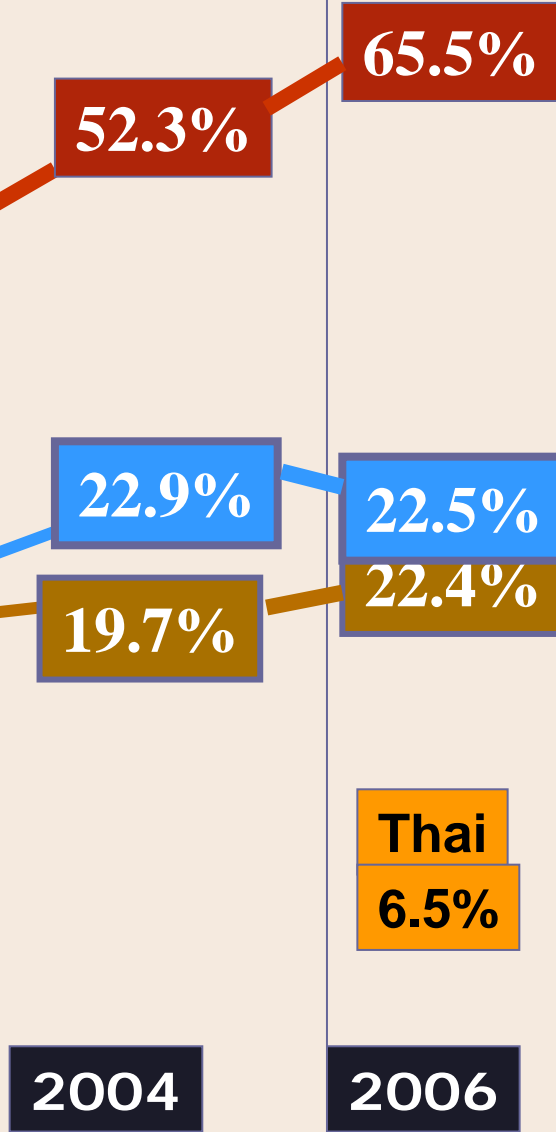


Note: Survey was conducted in 2004. Companies with less than 300 Employees.  
Source: Chushokigyō Hakusho (White paper: 2005)

*Mfg countries (region) of copied JPN products (counterfeit goods).*



出所：特許庁「2001年度模倣被害調査報告書」





## Age of Japanese Products transferred to Overseas Operations(1985 - 1997)

	1985 - 89	1990 - 1996	1997 -
<b>Less than 2 years</b>	12.3	17.3	<b>31.9</b>
<b>2 – 5 years</b>	10.8	19.2	13.0
<b>5 – 10 years</b>	26.2	21.2	11.6
<b>10 – 20 years</b>	23.1	20.2	23.2
<b>More than 20 years</b>	<b>27.7</b>	22.1	20.2

# R&D Intensity of JPN Manufacturing Industries

	<b>(R&amp;D Expenses / Sales)</b>	Nr of R&D employees / 10,000 employees (Person)	Nr of R&D employees to all employees (Person)
1960	0.88%	149	1 /67
1970	1.38	180	1/56
1980	1.63	323	1/31
1990	3.36	517	1/19
2000	3.70	776	1/13
2005	3.89*(6.02%)*	955(1,564)	1/10.5 (1/6.4)

Source: Ministry of Public Managmnt, Report on the Survey of R&D

**The virtuous cycle of R&D  
does not work without**

**IPR**

**Intellectual **P**roperty **R**ights**

# Creation of New Technologies and Ideas

**Protection by IPR**

**Exclusive rights to use patented technologies**

**= IPR work as Entry Barriers**

**High Market Share**

**Premium Price → High Profit Ratio**

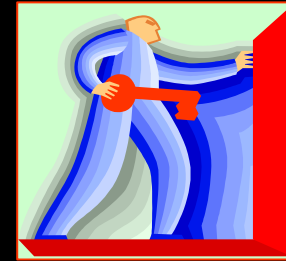
Huge R&D Investment  
in R&D Activities



Development of New  
Technologies



New Products



Copy  
Imitation



**Entry from other sectors .  
similar products appear on the market.**

Low Profit Ratio

Or even red ink

# *Intellectual Property Rights*

(=知的財産権)

IPR

Industrial PR



International Convention for the Protection of New Varieties of Plants

New Seed & Seeding  
protection of new variety of plants

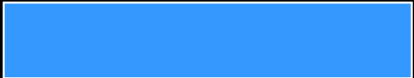
Trade Secret

constitutive substance

# *Patent Rights*

## Exclusive rights to use invented technologies

A patent is a set of exclusive rights granted by a state to a patentee for a fixed period of time in exchange for a disclosure of an invention. ----- a patent application must include one or more claims defining the invention which must be 

**The exclusive right** granted to a patentee in most countries is **the right to prevent or exclude others from**   
**the patented invention.**

(from Google Wikipedia://en.wikipedia.org/wiki/Patent)

- A patent provides the right to *exclude others* from [redacted] the patented invention for the term of the patent, usually [redacted] years from the filing date.  
(出願の日から [redacted] 年間有効)
- Patent, in the modern sense, originated in Italy, 1474.
- The modern patent law was established in [redacted] or in [redacted], in [redacted] by King James I .
- New important technologies invented by J. Watt, L.Paul, R.Arkwright, etc. were patented. These patented technologies played critical roles that led to Industrial revolution.



**Industrial Revolution**



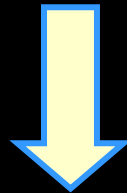
**The Rise of Bourgeoisie**



**Autocracy**  
**(absolute monarchism )**  
was brought down by

**Bourgeois revolution**

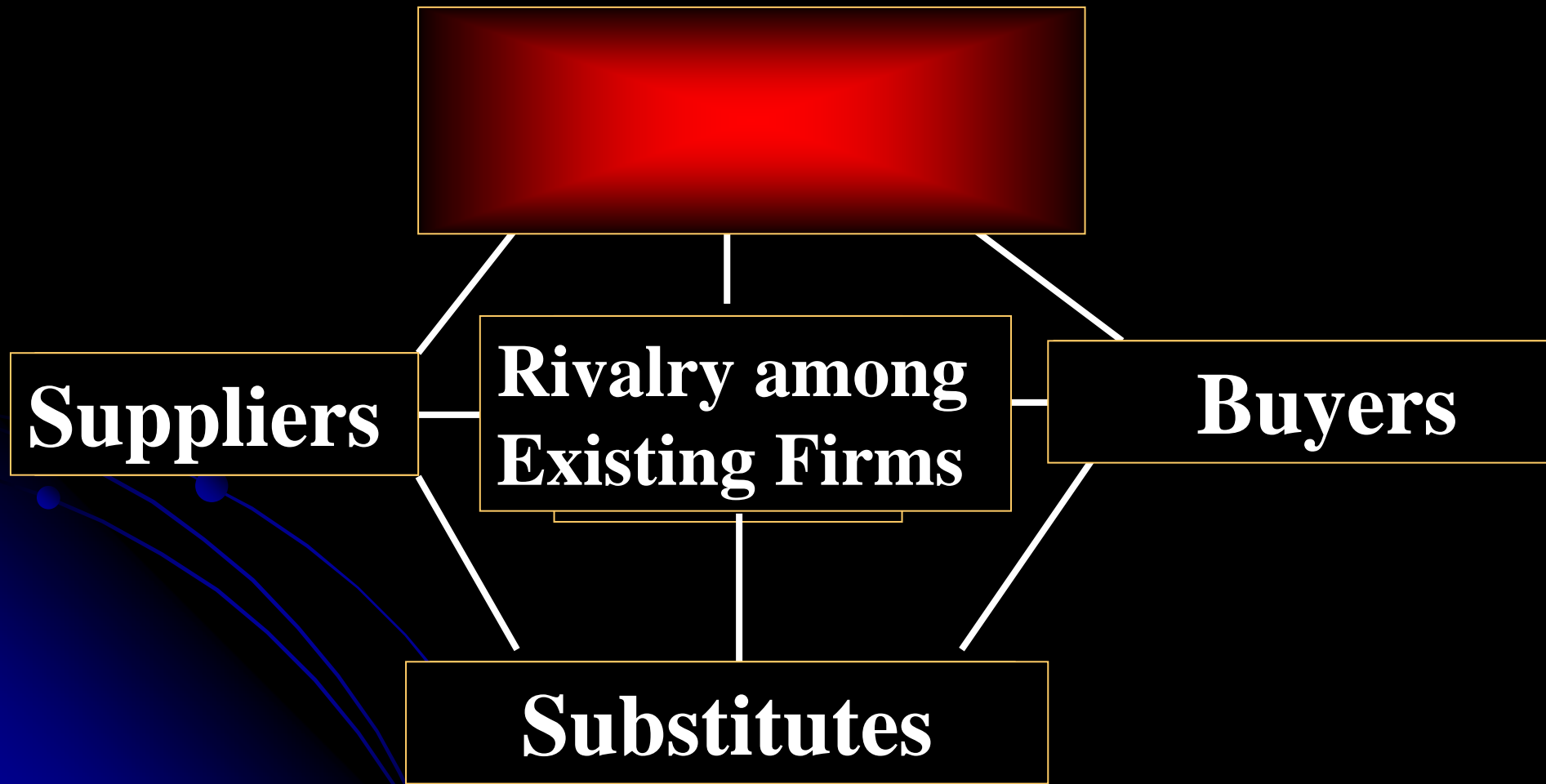
**IPR are the only legal rights to  
protect the outcome  
by Knowledge Work**



**Important Strategic Assets  
in the age of Knowledge Capitalism**


- Many Asian companies can now manufacture electronics products as well as JPN companies can. Or even faster and cheaper than JPN companies.
- JPN companies are now under high pressure to develop new products. They find it more difficult in keeping competitive advantages in process technologies than before.
- They have to continue to invest in R&D in order to develop new products.
- Without protection of newly developed technologies by IPR, all most all international companies can not recover the R&D cost. They could not survive without IPR.

# The Five Competitive Forces that determine Industry Profitability by M. Porter



# **VRIO Frame Work Resource Based View (RBV) by J. Barney(2002)**

## **4 Sources of Competitive Advantages**

- **Valuable (Value)**
- **Rare (Rarity)**
- 
- **Organizational (Capability)**

# Intellectual Property Rights

- Legal exclusive rights to exclude others from [redacted] the patented products & technologies.

,Which is the only legal rights to allow the company to make exclusive businesses.

## References

- K.G. Rivette and D. Kline(2000), *Discovering New Value in Intellectual Property*, HBR, Jan-Feb., 54-66.
- M.Porter(1985), *Competitive Advantage*, The Free Press.
- J.Barney(2002), *Gaining and Sustaining Competitive Advantage*, Prentice Hall.
- T. Hayashi(1991), *Multinational Enterprise and Intellectual Property Rights*, Moriyamashoten (in Japanese).

**1:**

**The Importance of I P R  
in the Age of Knowledge Capitalism,  
and for Japanese Companies.**

**2: Send Questions and Comments**

**To**

**[takabumi@rikkyo.ac.jp](mailto:takabumi@rikkyo.ac.jp)**

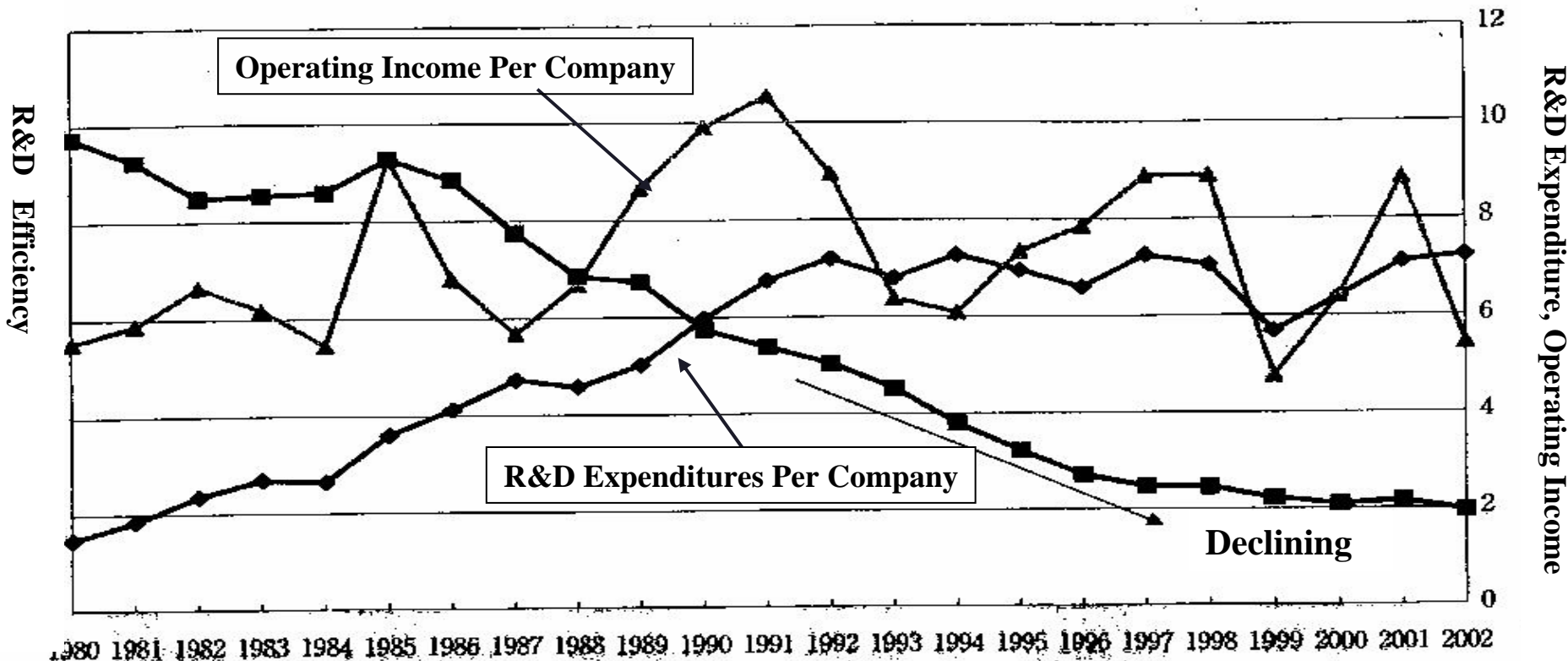
**<http://www.rikkyo.ne.jp/~takabumi/GIM.html>**



# The Expected Life Time of the Most Important Product of Companies in 2003

	Under 1 year	1 – 3 Years	3 – 5 Years	6 – 9 Years	More than 10 years
<b>Computer &amp; Peripherals (N=23)</b>	<b>12%</b>	<b>65%</b>	<b>18%</b>	<b>6%</b>	<b>0</b>
<b>Electric &amp; Electronics (N=166)</b>	<b>9</b>	<b>28</b>	<b>26</b>	<b>7</b>	<b>31</b>
<b>Information /Communication (N=21)</b>	<b>0</b>	<b>29</b>	<b>33</b>	<b>14</b>	<b>24</b>
<b>Precision instruments (N=26)</b>	<b>4</b>	<b>46</b>	<b>25</b>	<b>8</b>	<b>17</b>
<b>Automobile / Component (N=88)</b>	<b>1</b>	<b>18</b>	<b>37</b>	<b>8</b>	<b>36</b>

# Declining Tendency of R&D Efficiency of Japanese Manufacturing Industries 1980 - 2002 (in Million Yen)



Note: On the assumption that the lead time of R&D before commercialization is 5 years. R&D efficiency is defined as the ratio of operating profit to R&D expenditure. R&D efficiency is calculated in the following equation.

Nominal values are used in the calculation.

R&D efficiency in the year concerned = (Per-company operating income in the past 5 years counting backward from the year concerned) / (Per-company internally used R&D expenditure in the past 5 years counting backward from the 5<sup>th</sup> year before the year concerned)

E.g.: R&D efficiency in 1995 = avg. operating income between 1991-1995 / avg. R&D expenditures between 1986-1990

Source; Ministry of S&T(2003), White Paper on Science & Technology

Not only Chinese companies but Japanese affiliated companies export from China. Many companies have stopped manufacturing of matured products at home and import from their Asian operations.

## **The Percentage Ratio of Intra-firm Import of the Total Amount of Import by JPN Manufacturing Companies**

<b>1991</b>	<b>5.9% ( 72.1%)</b>
<b>1996</b>	<b>11.2% ( 83.7%)</b>
<b>2000</b>	<b>16.0% ( 80.5%)</b>
<b>2004</b>	<b>18.5% (78.4%)</b>

- **iPod nano**
- **Nintendo DS**
- **PS2, PS Portable & PS3**
- **RAZR (Cellular Phone)**  
**40 million units in 2006**
- **Cell-Phone (Nokia corp.)**  
**41.5 million units in 2006**

? Employs 200,000 workers and engineers in china, of which 30,000 work only for Apple products.

- **The largest exporter in China.**
- **The only company consistently ranked among top ten in the Business Week IT100 since 2002.**
- **Fortune world largest 500**

**Hon Hai Precision Industry Co. Ltd**  
- **The core company of**  
**Foxconn** Technology Group. -