

# Open Access in Asia: A Japanese perspective

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# *An Asian Perspective*

- “Modernization” and scholarship
  - Scholarship(=R&D in STM(A)) for a nation to grow
- Ethnoscietific knowledge NOT useful for “modern” nation, so must learn from outside, which is the “Western civilization”
- So scholarly communication is, or at least was, “import” business in Asia in many ways

If Asia is an issue now at all, that is due to change in this socio-historical structure and takes deep thinking. We are sorry we have started writing papers

# Import business in many ways?

1. Passive scholarship: University teachers are students, not researcher or scientists, thus no role for research libraries
2. “Sole agent”: Windows to the West control domestic flow of information, thus not only book importers, but scholars want to be sole agents
3. Knowledge enclosure: Don’t let others know! Restricted sharing rather than dissemination, hence society self-publishing
4. Classroom predilection: Attend classes! Don’t work outside! Learn everything by heart! This worded pretty well in Japan’s modernization

# Unpleasant changes

- Increased and still increasing government funding for R & D in Asian countries
  - Reached the stage where Asian university teachers can produce new knowledge
- Free flow of people, free market for researchers
- Free flow of information over the Internet
  - Can't control by importation logistics

# Open Access in Asia almost realized

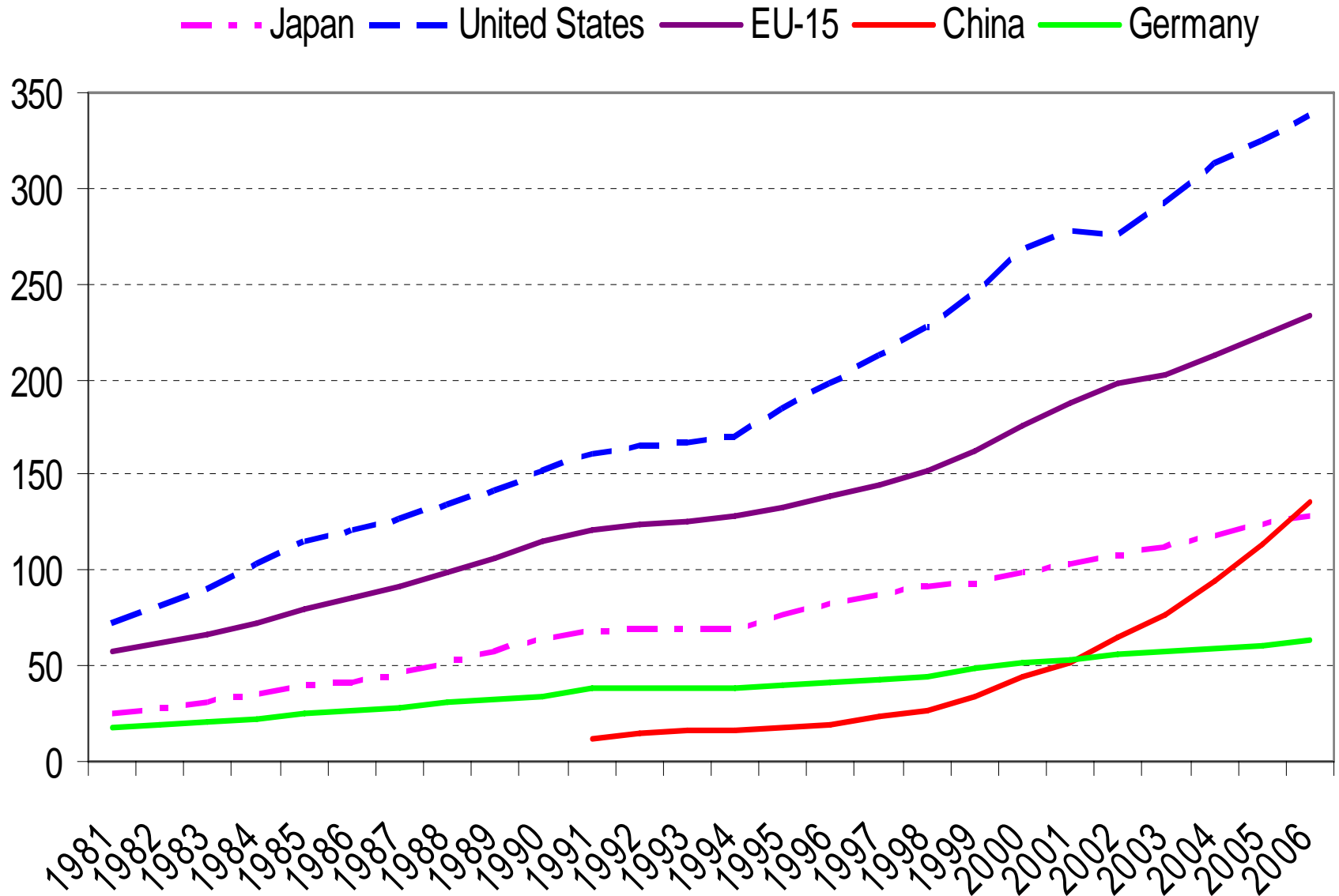
- Scholarly research and communication has been paid for, ie. supported by government or from pockets, so publications can be made open access in some sense (Authors fee-page charge, offprints or whatever can be paid from (direct) research money)
- Commercially supplied journal articles have been made electronic online almost completely, purchasable by “big deals,” available to most “relevant researchers,” so these restricted people have open access, paid by government

# What's left

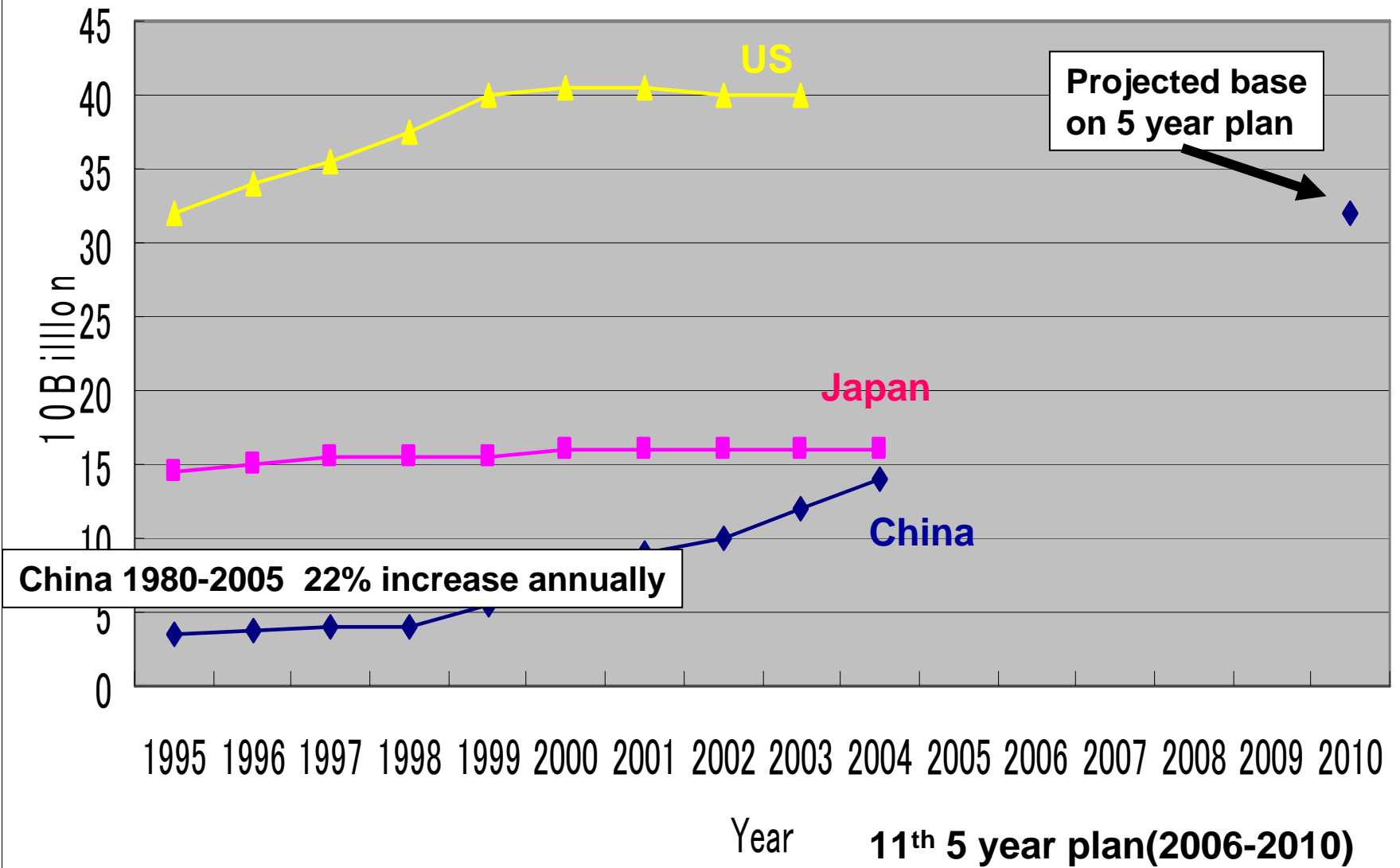
- Conversion to digital: China maybe leading, Japan way behind, Korea maybe catching up soon
- Journal prices: If funding increases papers and if more papers means higher unit prices, then researches should abstain from writing or government should decrease research funing.....uhm, logical but ....

# China overtook Japan in R&D funding (billion current PPP \$)

(The Science, Technology and Industry Outlook 2006, OECD)



# S & T Funding



# Number of researchers

- US 1,300,000
- China 926,000
- Japan 800,000
- Russia 600,000
- In terms of production:
  - 10+% of quality papers come from Japan, Germany and UK
  - 50+% of course from US
- Must expect more from China and other Asian countries. Please don't write, China!

# Research money distribution in Japan and actually elsewhere

- 1600BJPY total
  - 70% For-profit
  - 10% Public sector research institute
  - 20% Universities(300bJPY)
    - Direct cost: Growing
    - Infrastructure, in which library budget is categorized : Decreasing

# Now on Japan

1. Historical backgrounds and current demography
2. Money flow and “market” size
3. Library situations
4. “Foreign journals” made online
5. “Domestic journals” through ILL analysis
6. Institutional repositories: future libraries?
7. Japanese publishing industry, about which I don’ talk today though I have a lot to say
8. Future of research in Japan itself, about which I don’ talk today

# Japanese Backgrounds

- Meiji Restoration -> modern universities in Japan
  - focus on agriculture, medicine, engineering and jurisprudence toward Japan as modern country: Imperial universities and “hochschulen”
- Losing WWII, postwar restoration in focus
- Babyboomers and growth of universities in the 1970s
- Reforms began in 1990s in liberal “general” education and graduate schools

# Higher Education Geography

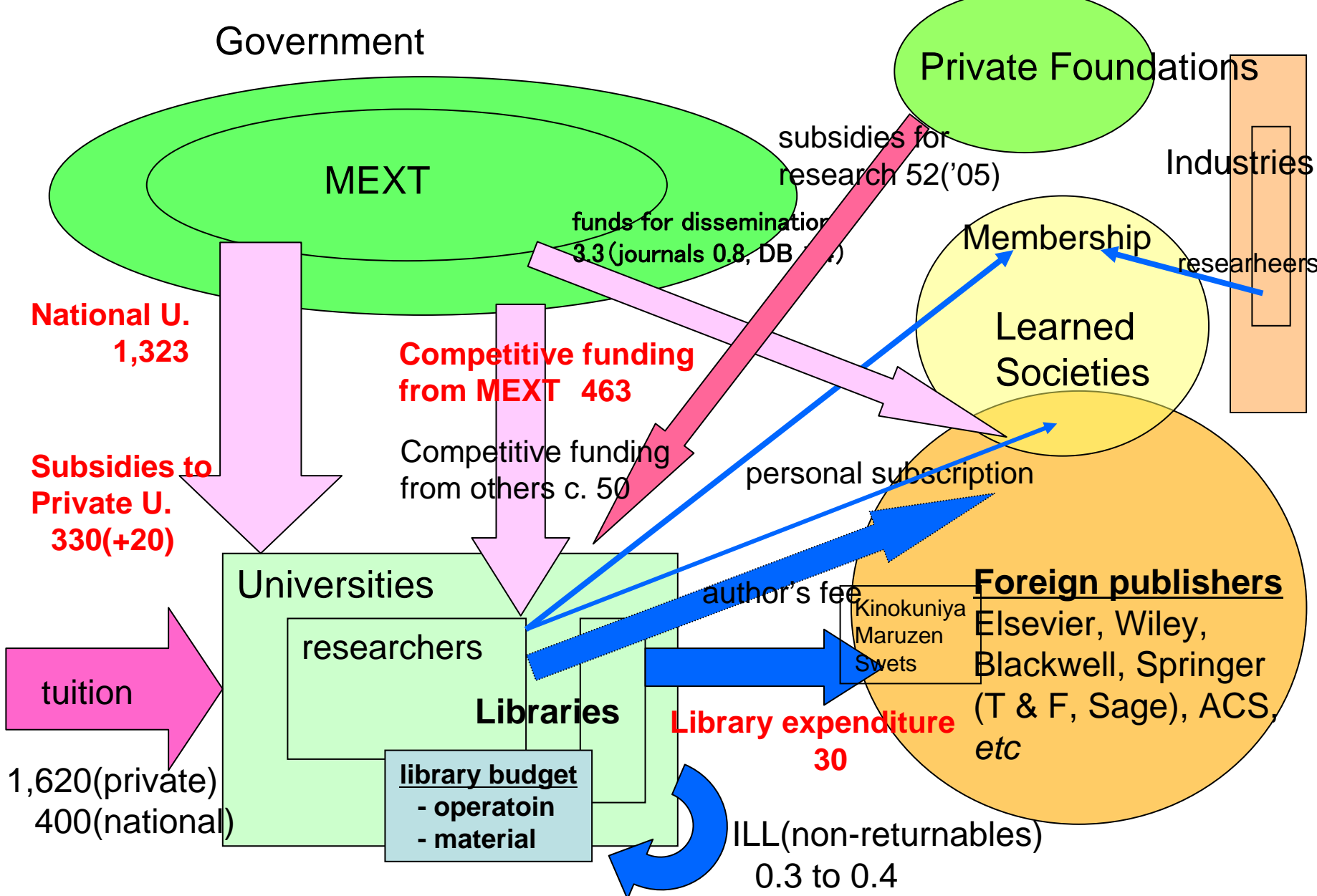
(2004)

	# of U	# of Undergrad	# of Grad	# of Faculty
National	87	459,496	146,913	60,897
Local Gov	80	105,176	13,575	11,188
Private	542	1,941,251	83,536	86,685
Total	709	2,505,923	244,024	158,770

# In short

- More research in national than in private universities
- More education in private than in national universities
- Science, engineering medicine in national universities
  - flat tuition system
  - policy decision for 1970s bulge for private to take in students

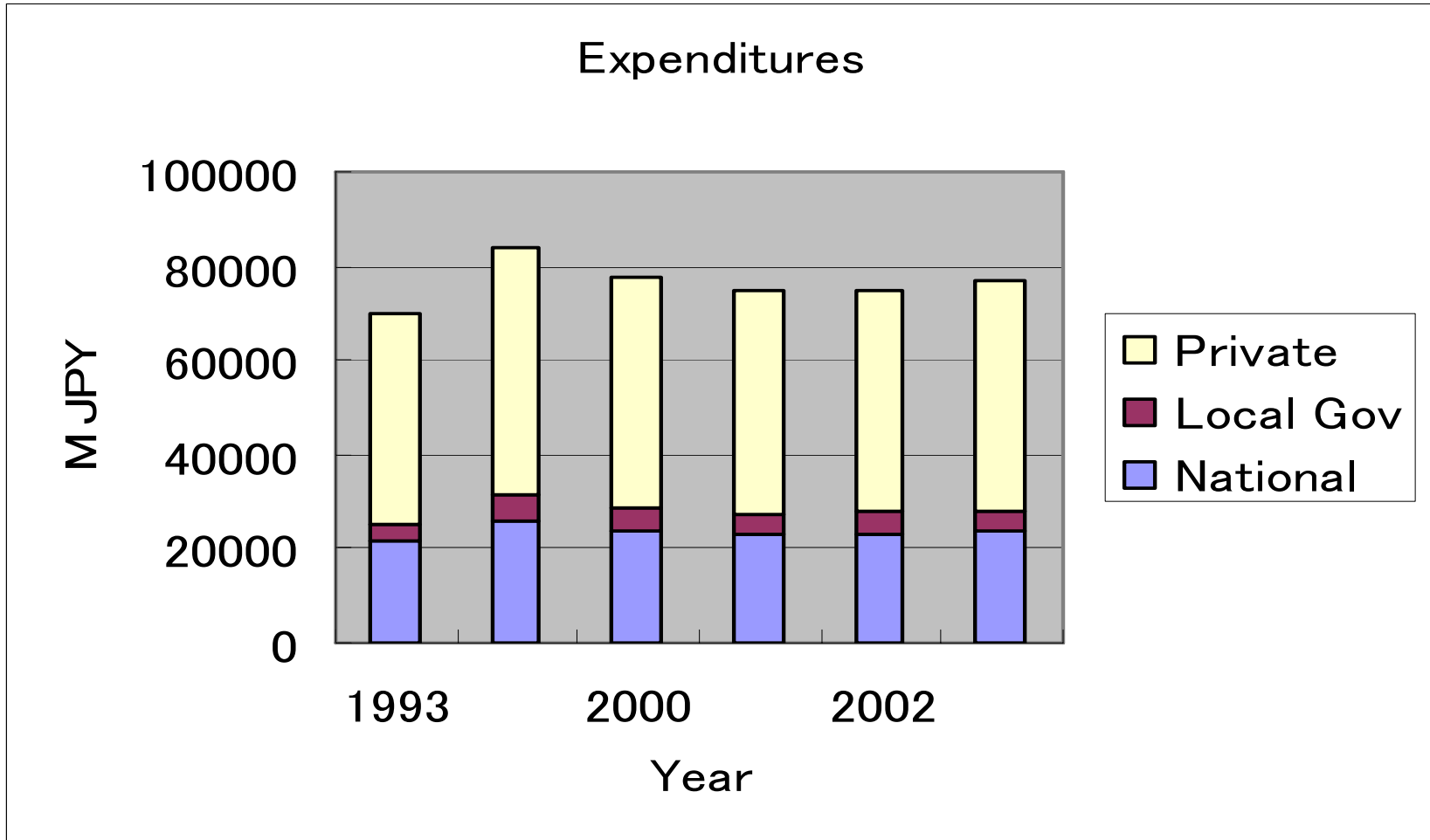
# Money flow for higher education and research in Japan(BJPY) (JPY0.12billion = US\$1M)



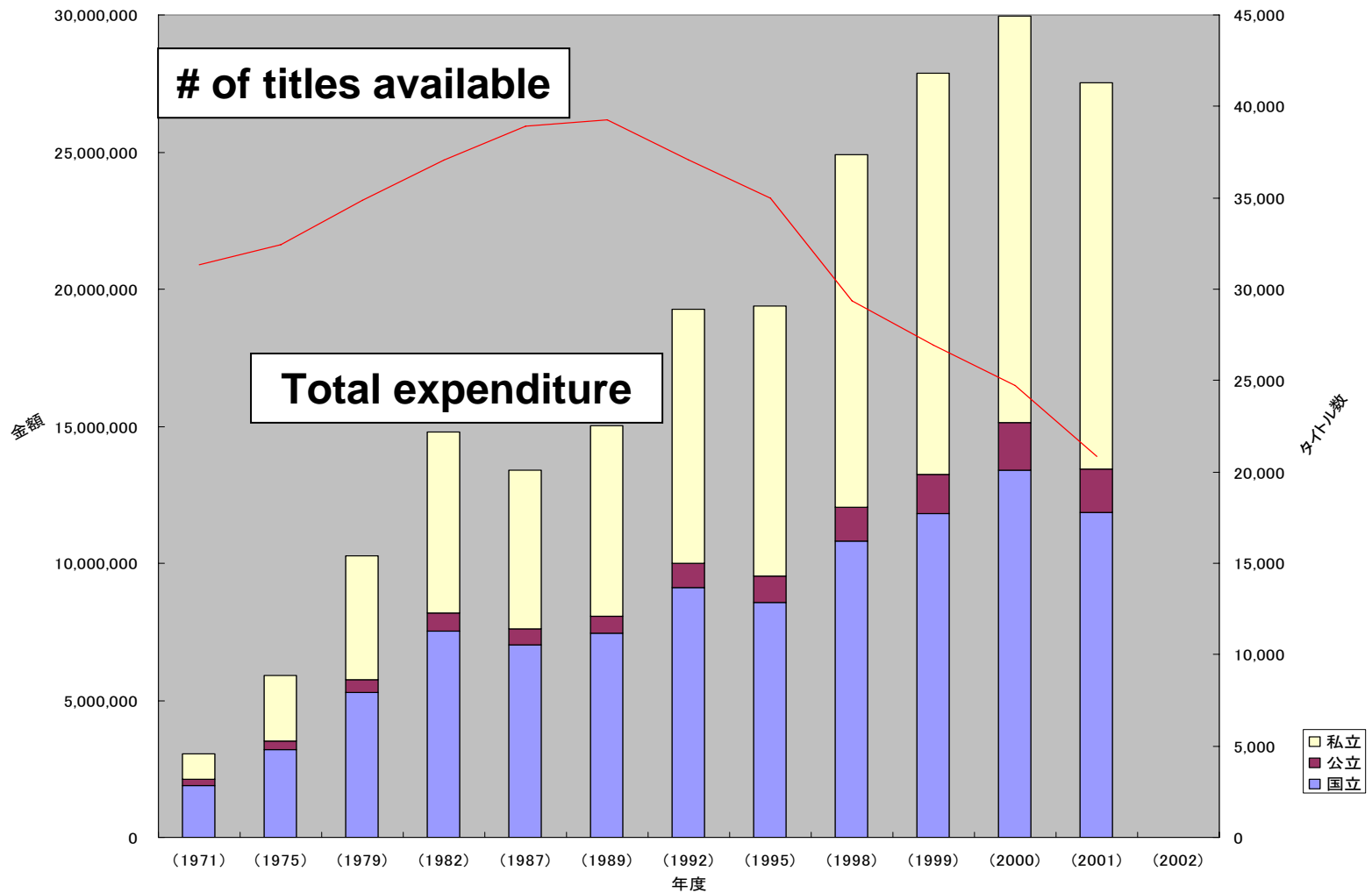
# Research money distribution

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# Library statistics



# Library statistics



# Library statistics

	Books		Serials			Others	Total
	Japanese	Foreign	Japanese	ForeingCurrent	F Back issues		
National univ.	4,074,669	3,056,204	1,760,221	11,901,186	98,469	2,835,113	23,725,862
Loc Gov	1,184,717	525,729	335,164	1,665,584	41,129	242,793	3,995,116
Private	14,484,176	9,141,558	3,956,284	16,082,589	394,045	5,357,020	49,415,672
	19,743,562	12,723,491	6,051,669	29,649,359	533,643	8,434,926	

# Decision making on campus

- Libraries do not have or control budgets
- Faculty alone decides both on serials and books. Books for students learning are selected by libraries but the portion is small. In those cases, libraries normally selects Japanese books.
- Faculty selects as they like. As a result, lots of duplicates, no principled collection etc

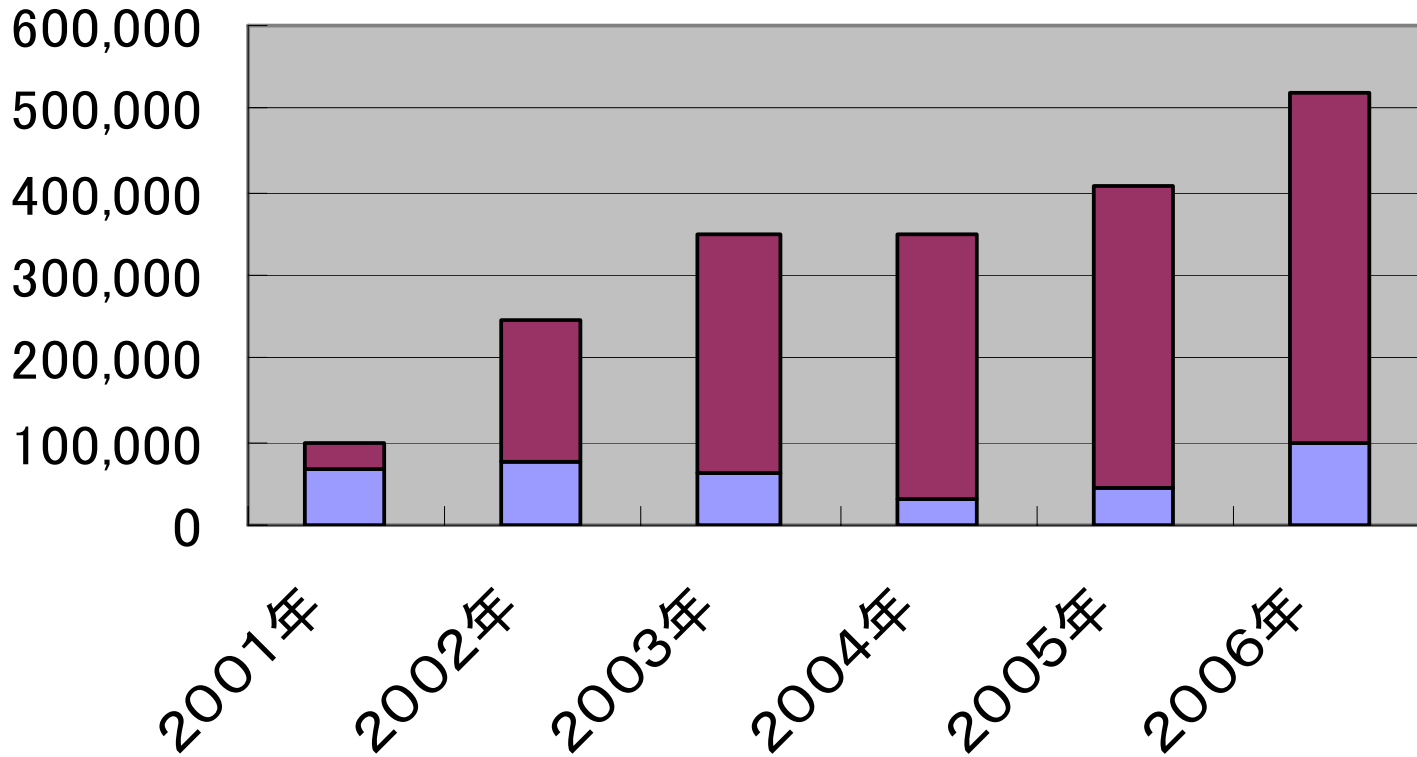
# Electronic scholarly journals

- Japanese version of “serials crisis”
- formation of consortia
  - successful to some extent– we are wise buyers
  - initiatives in archiving
  - user instruction in digital age
- More in national than in private universities
- Decentralized budget system again gets in the way

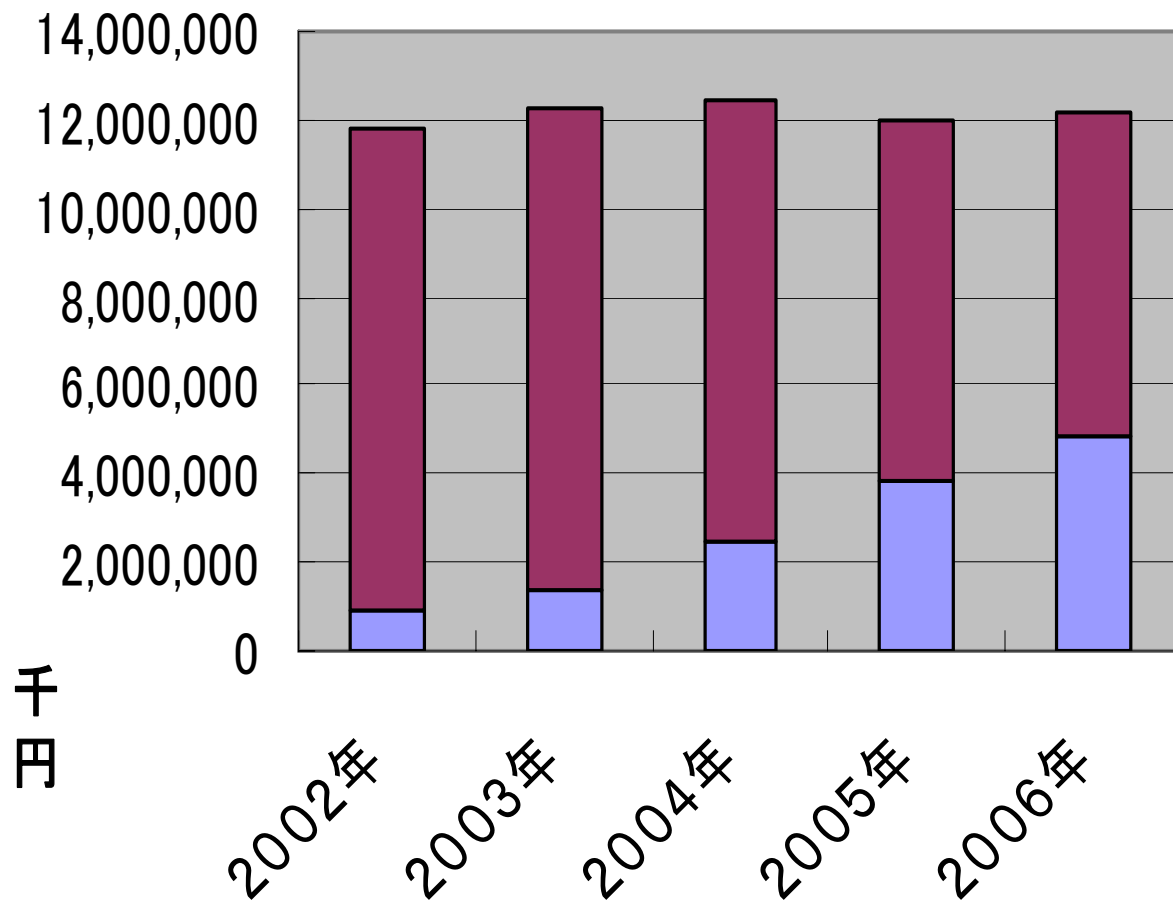
# Agents and bookstores

- Agents know but libraries don't
- “Markup” by agents determines library expenditure, more expensive than overseas
- Japanese market dominated by a small number of wholesale dealers and TRC
- Libraries don't talk to publishers even domestically

# Total number of titles available on national university campuses



# Expenditure on “foreign journals” by national universities



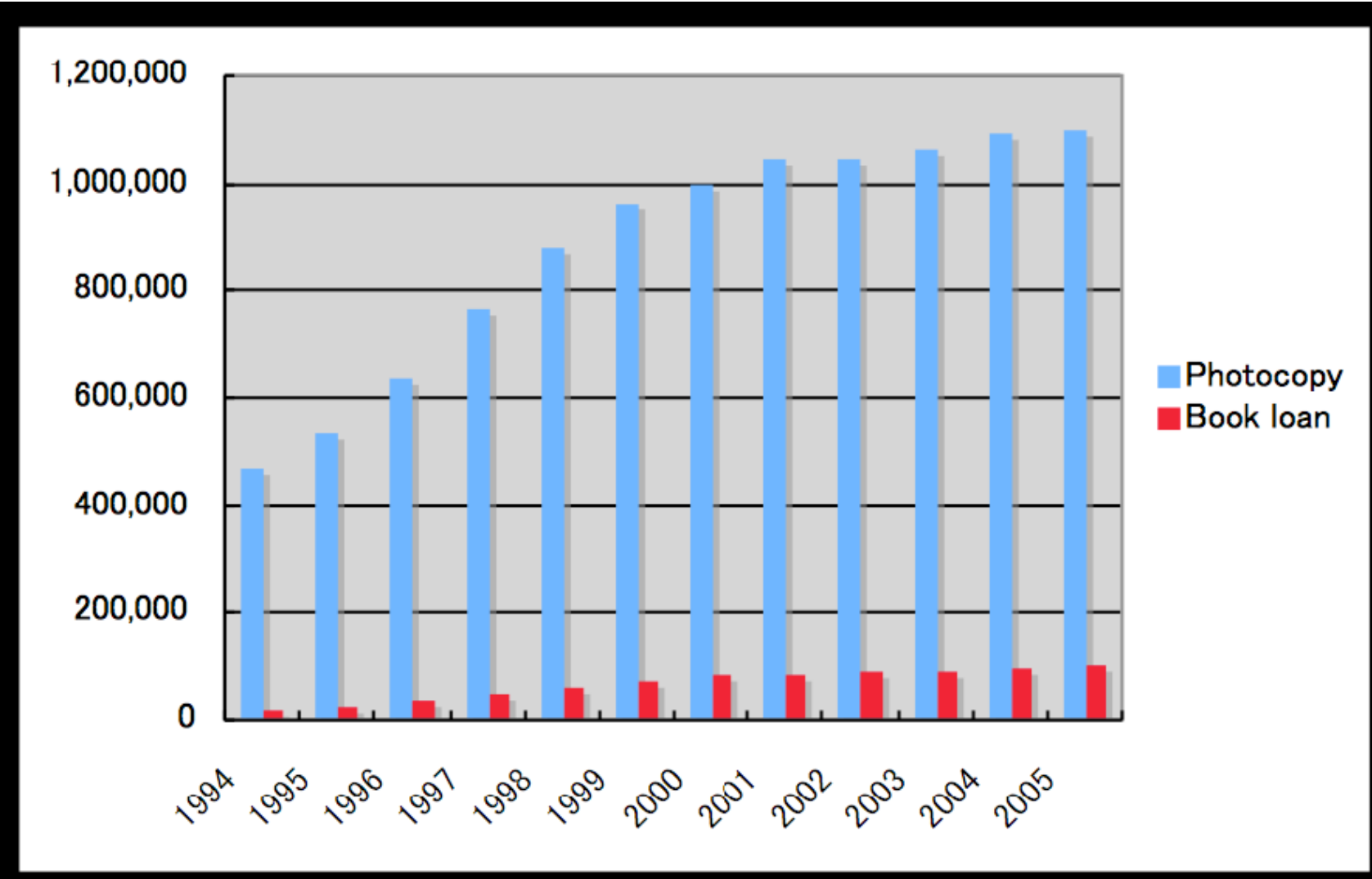
# “Foreign journals” in Japan

- Pretty much supplied to relevant researchers
- \$3 to \$4 per article download on the average
- Expenditure stabilized so far, but only so far or for now
- No big issue now

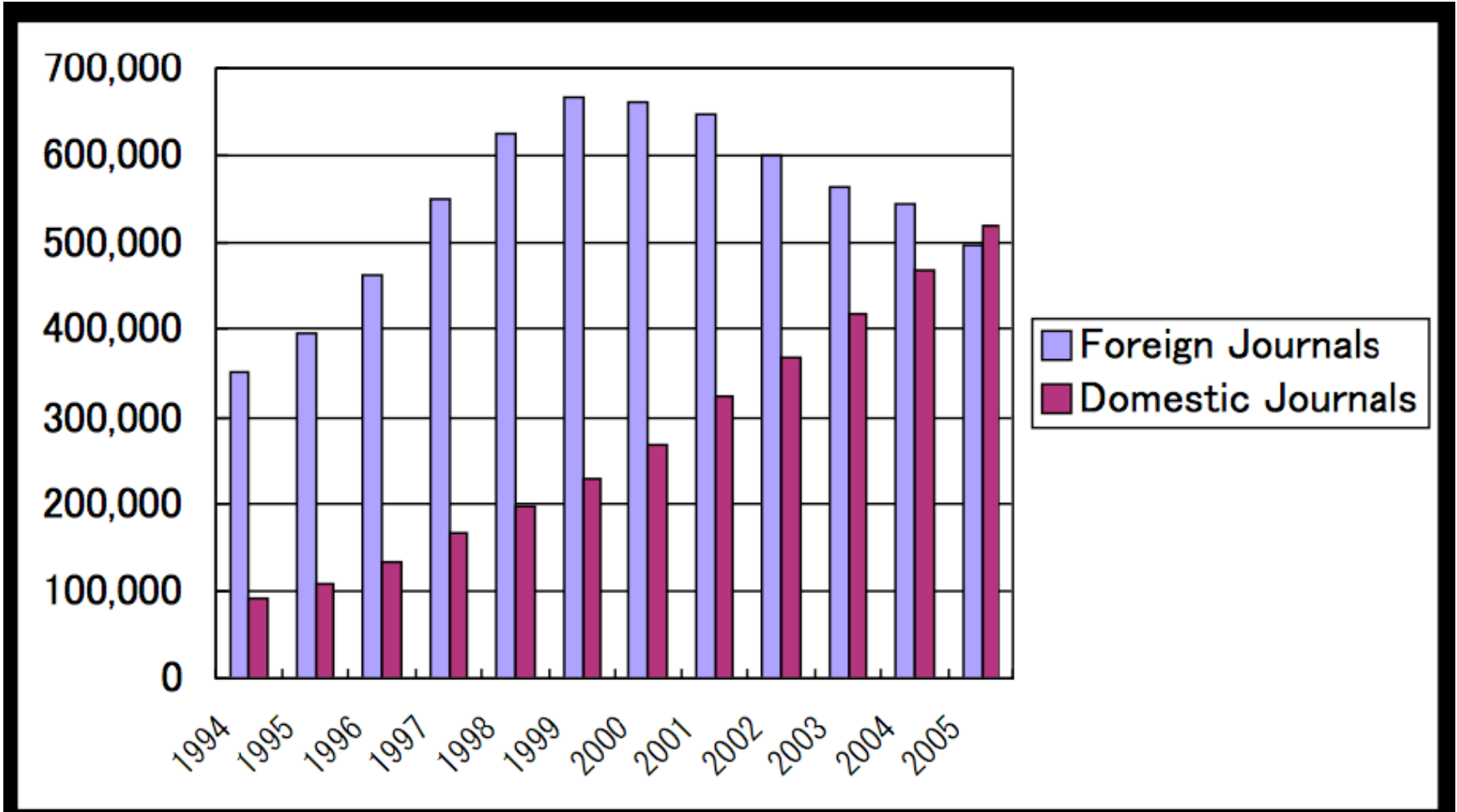
# ILL records confirms and finds

1. the "Interlibrary Loan (ILL)" in the Japanese university context is very peculiar in that requests for photocopies of "foreign journal" articles are significantly predominant in 1990s
2. ironically, increase of requests for "domestic journal" articles, including those in nursing science in particular, is becoming conspicuous as if to match the decrease of requests for "foreign journal" articles, most of which have become available online through site licensing under consortial arrangements that began in 2002
3. requests for book loan, which have only accounted for a small portion of requests, apparently increased as the union catalog database called NACSIS-CAT grew
4. the system is remarkably efficient with the fill rates in lending/supplying constantly high and the average turnaround time generally less than a week
5. while the original intention was construction of a mutually beneficiary collaborative system, there have been some libraries that mainly only request and others that mainly only supply, due partly to the existence of "subject foreign journal center" libraries which started in 1970s
6. some small or middle-sized libraries noticeably began to supply in recent years.

Change in the number of filled requests(1994-2005)



Change in the number of filled requests for foreign and domestic journals(1994-2005)



# The spirit of change made visible

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Nucleic ac Oncogene. Nucleic ac Nucleic ac Biochimica Biochimica Biochimica Anticancer Anticancer	日本精神科	日本精神科	日本精神科								
Oncogene. Nucleic ac Gene : an iGene : an iGene : an iAnticancer Anticancer Biochimica Annals of tAnnals of tAnn N Y A	日本看護研										
Genomics. Biochimica Biochimica Oncogene. Anticancer Annals of tAnnals of tAnnals of tBiochimica Anticancer	老年精神医	老年精神医	老年精神医								
Journal of Gene : an iOncogene. Biochimica Nucleic ac Oncogene. Advances iNeurorepor	日本精神科	母性衛生 / 母性衛生	母性衛生 /								
FEBS lette FerroelectrGenomics. Genomics. Advances iGene : an iGene : an iLangmuir :	Neurorepor	Biochimica	日本看護研	小児保健研							
Gene : an iGenomics. FEBS lette NeuroreporOncogene. Advances iAmerican jJournal of	看護教育研	老年精神医	日本公衆衛	Annals of t							
Brain rese:FEBS lette Tetrahedro Human mo Genomics. NeuroreporElectropho Electropho	Proceeding	小児保健研	小児保健研	日本公衆衛							
Biochimica Human mo NeuroreporFEBS lette FEBS lette Current bicNeuroreporGene : an i	Analytical k	日本公衆衛	Anticancer	カウンセリ							
Analytical kProceedingBrain rese:ProceedingNeuroreporNucleic ac Tetrahedro Tetrahedro	日本公衆衛	看護教育研	看護教育研	日本老年医							
The EMBO Journal of American jThe Journ:Annals of tFEBS lette Journal of ProceedingThe journa	日経アーキ	カウンセリ	日本看護科								
Annals of tThe Journ:The Journ:Anticancer FEMS micnJournal of FEBS lette American jLangmuir :	日本看護研	Proceeding	Anticancer								
Chemical pBrain rese:Human mo Tetrahedro Current bicGenomics. Journal of Journal of Journal of	The journa	Langmuir	学校保健研								
The Journ:American jProceedingAnnals of tChemical pAmerican jBiochemic:Analytical k	老年精神医	Journal of	日本看護科	作業療法							
The Journ:Analytical kEuropean jBrain rese:ProceedingBrain rese:Analytical kAdvances i	Tetrahedro	Advances i	日本老年医	Fourth gen							
Biochemic:Tetrahedro Tetrahedro American jSomething Electropho Langmuir : Journal of The Journ:	精神科治療	Neurorepor	精神科治療								
Thin solid fMolecular :Annals of tThin solid fBrain rese:The Journ:Nucleic ac Molecular :	Biochemic:Langmuir :	Chemical p	Journal of								
Human mo Annals of tChemical pEuropean jThe Journ:ProceedingMolecular :	FEBS lette	母性衛生 /	Tetrahedro	日本心理学	健康心理学						
Molecular :Journal of Thin solid fAdvances iTetrahedro Molecular :	The journa	老年精神医	Advances i	Proceeding	Oncogene	日本がん看					
Journal of European jThe EMBOThe Journ:Human mo Human mo Journal of The journa	Journal of	Current bic	The Journ:	看護教育研							
American jChemical pNeuron. Chemical pAmerican jJournal of Genomics. Biochemic:Current bic	Neurorepor	Journal of	思春期学								
European jBiochemic:FerroelectrMolecular :Thin solid fJournal of Proceeding	日本精神科	Journal of	Analytical k	Biochimica	Langmuir						
Surface scAdvances iJournal of Journal of European jGenes & d:Chemical pJournal of	Tetrahedro	Synthetic (	Advances i	Biochimica							
Journal of The EMBOSynthetic :Tetrahedro Journal of CarcinogerThe Journ:Journal of	大阪毎日新	Journal of	精神科治療	日本心理学							
Neuron. Neuron. Molecular :Current bicJournal of Analytical kCarcinogerThe Europ:	日本看護研	Tetrahedro	Journal of	Journal of							
Tetrahedro NeuroreporAdvances iGenes & d:Analytical kThe journa	Current bic	Internation	カウンセリ	Journal of	Journal of	小児科臨床					

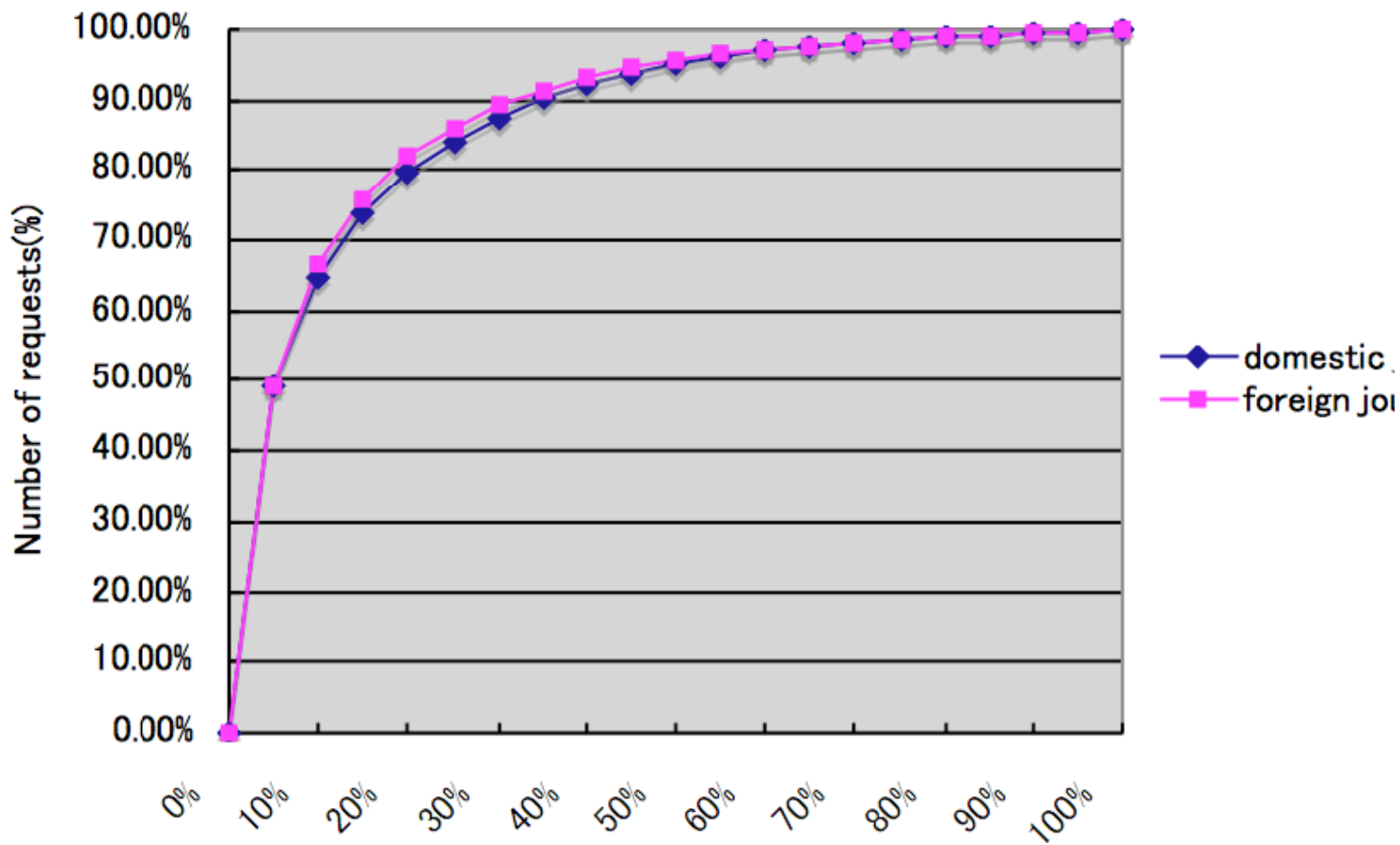


# What about the less used?

- In 2005、
  - 191173 different titles were requested

# of requests	# of titles
1	124069
2	23971
3	9095
4	5129
5	3440
6	2490
7	1919
8	1590
9	1330
10	1060

以上計  
174093  
(91.1%)



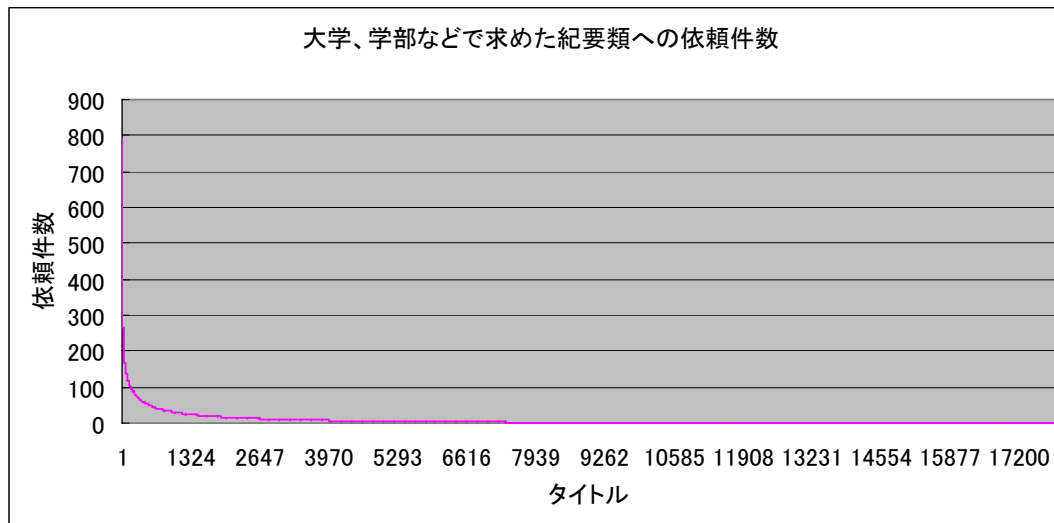
# A bit more in detail

51959 requests to 3782 titles

- “skewness” is:
    - 10 % requests to 25 titles
    - 50 % requests to 300 titles, for which on the average 40 requests were made
    - 1 request to 886 titles
    - Less than 10 requests to 2619 titles
    - Between 10 and 40 requests to 1000 titles
- ⇒ Could mean with the open access to these titles 10% of ILL requests will disappear, ie demand for information will be met

# Into a vague area,

- When title includes “大学|大學|学部|学科|研究所|紀要”
  - 147584 different names with 144352 IDs
    - 17940 different IDs, and the distribution is



# Symbolic examples from frequently requested

- 791 神奈川県立看護教育大学校看護研究集
  - Lecture note series at a continuing education school for nurses
- 523 京都大学医学部整形外科教室紀要 (中部日本整形外科災害外科学会誌)
  - Originally for communication among alumni of a medical department, growing into a journal for regional community
- 496 筑波大学心理学研究
  - Department journal of psychology, though digitized on line
- 477 高知女子大看護学会誌
  - Department journal for nursing science from on the most traditional college of the kind.

# Domestic journals

- Basically belong to “long tail”
- 2 kinds
  - department journals/bulletins(15000)
  - Society journals(2000 – 3000)
- **Department journals** are published and sent by university money, donated or exchanged between departments, not libraries
- **Society journals** are published, or printed, to share among members, not for dissemination, and most of the time supported totally by membership fee

# Society journals

- More than 2000 titles being published, monthly, quarterly, or annually
- Out of them, between 200 and 300 titles are in English
- Between 70 and 100 are published in corporation with foreign for-profit/not-for-profit publishers
- Some of them are subsidized by JSPS' grants(total 0.7bJPY) to printing
- Most of them(2000) are not online

# NACISIS-ELS & J-STAGE

- Starting in mid-90s, two major services
  - NACISIS-ELS: electronic publishing through image digitization(less than 0.1bJPY)
  - J-STAGE: online publishing of born-digital PDF files(1-2bJPY)
- Both services almost provided for free
  - ELS now provides 4M articles
  - J-STAGE hosts 200+ journals, but year-by-year budget system could be a danger
- Now both suffer from “archaic architectures”
  - With politically institutional conflicts

# Institutional repositories

- In 2003, almost 0, but now as of March, almost 50 working
- Contents:
  - Journal articles: having a hard time (most Japanese societies don't know copyright)
  - Self-published articles: rapidly growing
  - Dissertations and theses: rapidly growing
  - Other gray literatures: rapidly growing
  - Learning materials: slow but growing
  - Science data: not often, but remote sensing, satellite images, plant leaf pictures, etc
- And a lot of advocacies

# So

- With proper growth of institutional repositories,
  - self-published articles will be made wholly online soon
  - Science data will be accumulated
  - Domestic journal articles will be made online from institutional repositories eventually
  - And with big-deal licensed materially

Almost all materials will be made open access for Japanese researchers and students, which is good but only for Japan

- Peer-reviewed articles
  - in “foreign journals”
  - in domestic societies’ English journals
    - Self-published
    - Publisher-published
  - in domestic local language journals

Sales

but cheap

Membership

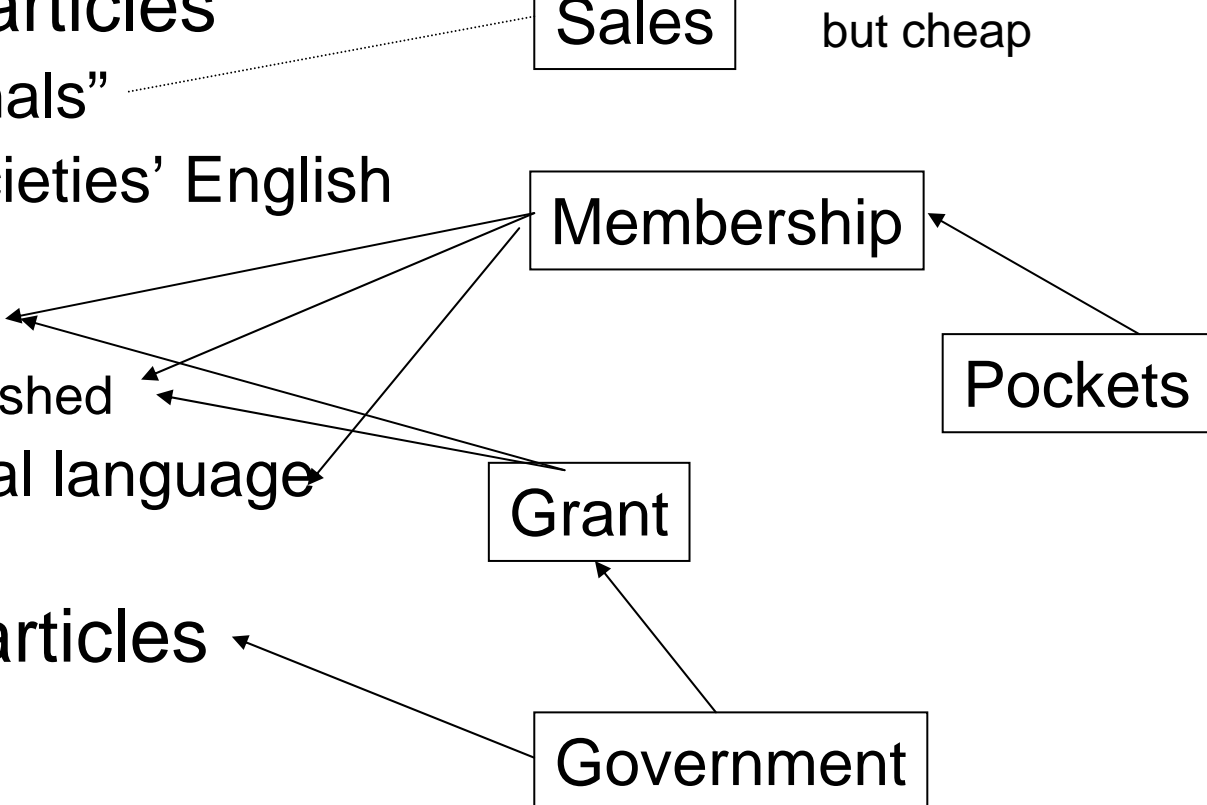
Pockets

Grant

- Self-published articles
  - By universities
  - By societies

Government

- Books
  - By foreign publishers
  - By domestic publisher



# The idea of Content Infrastructure

(Creation and Dissemination of scholarly contents jointly by universities and NII)

Scholarly communities  
(researchers, students, etc)

Make available

CSI (Cyber Science Infrastructure)  
Network + materials + Grids

Scholarly material as common goods

NII

Universities

Materials

NII-REO

NII-ELS

KAKEN

CAT

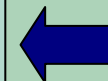
Journal  
Articles  
And books

Refereed  
And  
Un-refereed  
Articles from  
Societies

Report from  
JSPS  
Grants-in-aid  
research

Catalogs

Institutional repositories



Books, Journals  
Theses and Dissertations  
Department journals  
Technical papers, etc  
Courseware  
Patents, softwares  
Science and statisticao  
Data  
Cultural heritage

Securing

Jointly by library consortia and NII

digitization

crawling

harvesting

Scholarly publishers  
[e-journal, e-books]

societies  
[journals]

Web resources  
In general

Misc

# Conclusion

- Asian perspective is historically constrained
- History is changing now
- Whatever open access means, there is a chance of Japanese being able to access almost all scientific articles
- Japanese government view? Who know?