

# Next Generation Library Solutions: Shared Services and Beyond

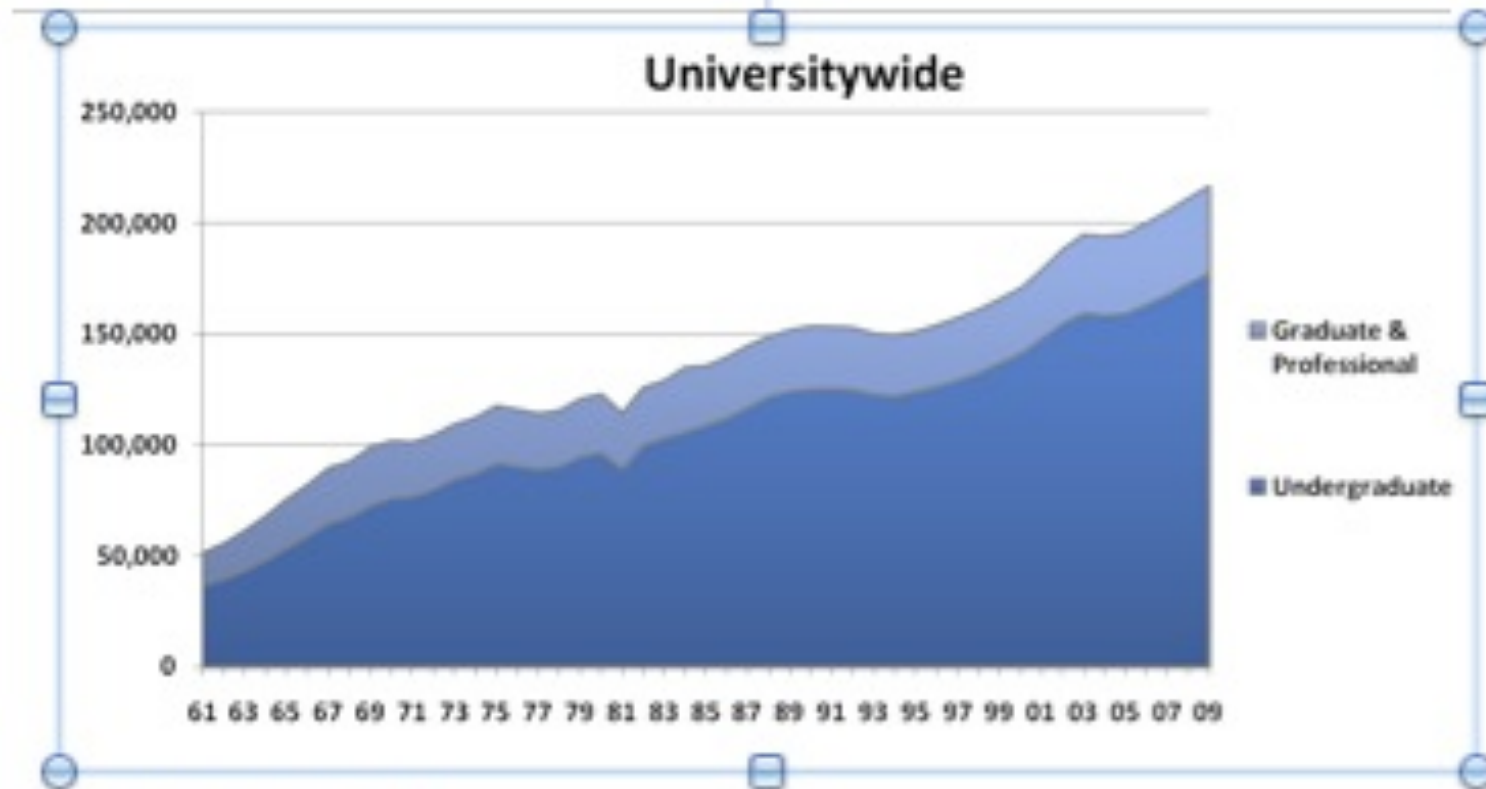


SOME PERSONAL REFLECTIONS  
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CALIFORNIA  
NOVEMBER 12, 2010

# The state of public higher education in California. More participation (enrollment growth)



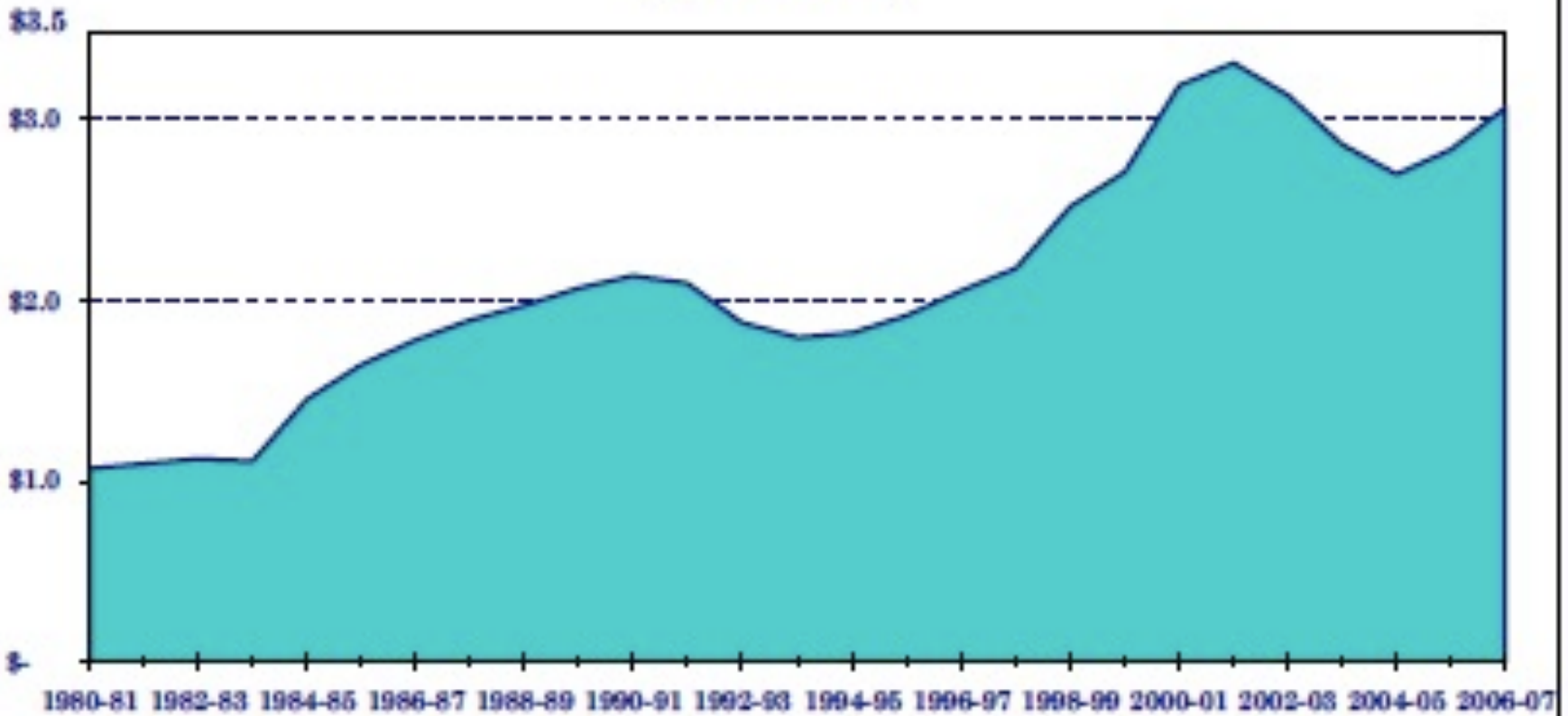
Undergraduate and Graduate Student Enrollment, Universitywide, Fall 1961 to 2009



Note: General campus enrollment only

drives degree production (up 4% year on year for over a decade), and revenues

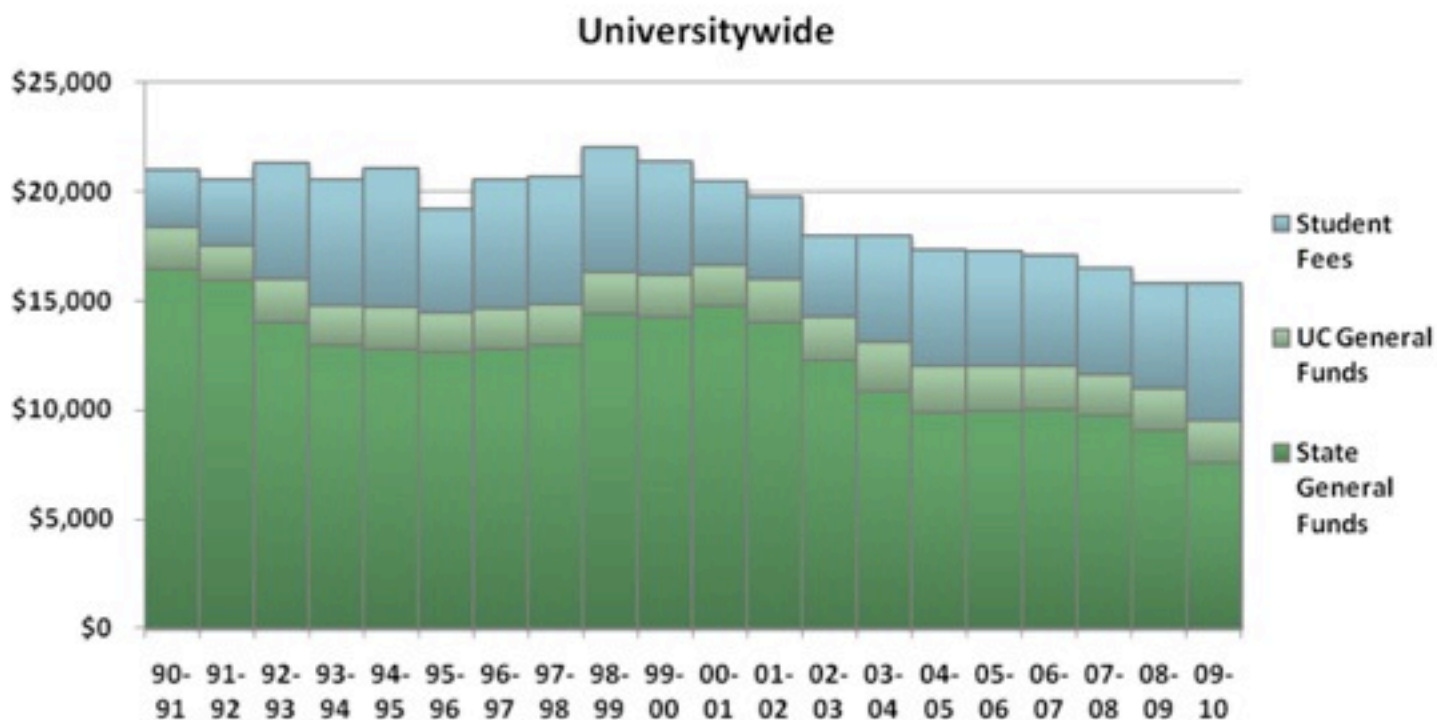
**State General Funds Support  
for the University of California  
(\$ in Billions)**



# but with declining per-student investment



Per-Student Average Expenditures for Education, 1998-99 to 2009-10



Note: Figures have been adjusted for inflation.

# forcing the university to do more with less



## With predictable results

- Increased student faculty ratios
- Greater use of non-tenured faculty
- Faculty salaries slipping
- Growth in the use of large lecture halls

# In the library, expenditures grow



as do revenues (up 20% since 2000/1)



masking collapse in expenditure per student (down 6% since 2003)

and

the library's share of university income (down 10% from 2003 as a proportion of all state appropriation and student fee revenue)

# And, oh yeah, all this in the context of hyperinflation in the cost of material,

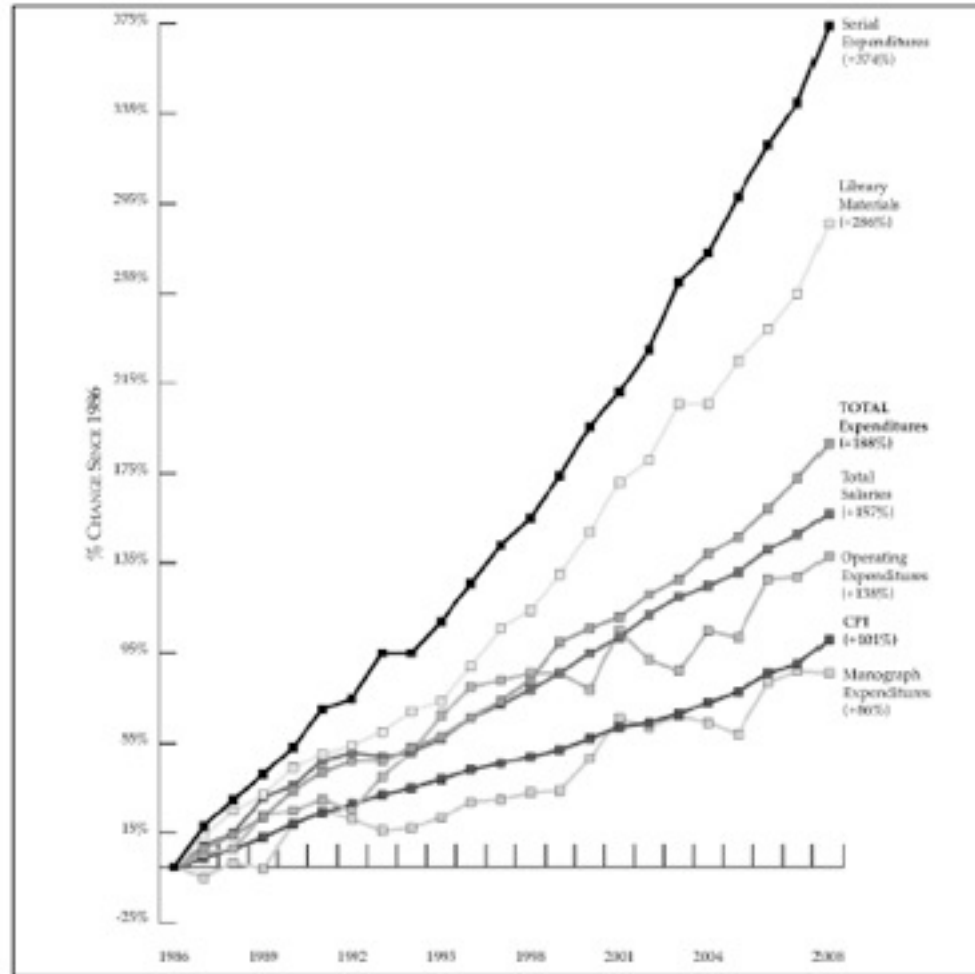


Fig. 3: Expenditure trends in ARL member libraries, 1986-2008.

Source: Kyrillidou and Bland 2009, 15.

# the commodification of traditional library services

WorldCat® Local

Google™ scholar beta



Google books

# and library service aspiration in “publishing”, academic computing,

## Ranking Web of World Repositories

July 10

home > Top 800 repositories

Top 800 Repositories

First | Previous | Next | Last | Repositories 1 to 50 of 800

WORLD RANK	REPOSITORY	COUNTRY	SIZE	POSITION		
				VISIBILITY	RICH FILES	SCHOLAR
1	CiteSeerX	USA	2	1	528	2
2	HAL Hyper Article en Ligne CNRS	FR	9	5	1	7
3	Research Papers in Economics	EU	1	7	86	4
4	Social Science Research Network	USA	5	4	41	5
5	Arxiv.org e-Print Archive	USA	19	2	231	3
6	CERN Document Server	CH	3	12	4	9
7	Smithsonian/NASA Astrophysics Data System	USA	11	3	739	1
8	HAL Institut National de Recherche en Informatique et en Automatique Archive Ouverte	FR	10	11	5	21
9	Digital Library and Archives Virginia Tech University	USA	13	10	3	33
10	HAL Hyper Article en Ligne Sciences de l'Homme et de la Société	FR	16	9	7	39
11	École Polytechnique Fédérale de Lausanne Infoscience	CH	4	13	11	137
12	MIT Dspace	USA	15	27	6	11
13	Ressources documentaires Institut de recherche pour le développement	FR	8	23	2	304
14	Online Archive of California	USA	7	15	8	683
15	Deont Fruité	FR	119	8	153	347

Search Repositories for:

Category:

Cybermetrics Lab



STANFORD  
UNIVERSITY

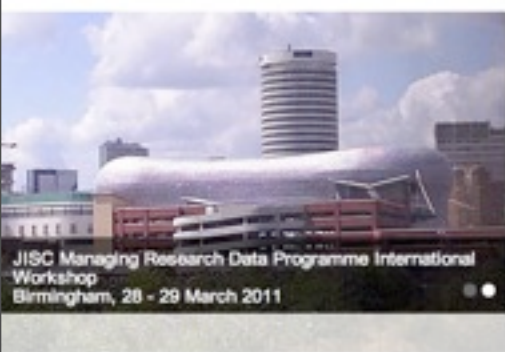
ACADEMIC COMPUTING SERVICES

# and digital curation and research support

Accessibility | Glossary | Sitemap | RSS feeds

**DCC** because good research needs good data

Home | Digital Curation | About Us | News | Events | Resources | Training | Projects | Community | Contact Us



## What is the Digital Curation Centre?

The Digital Curation Centre is the UK's leading centre of expertise in digital data curation.

Anyone who has an obligation to store, manage and protect digital data can turn to the DCC for expert advice and practical help. By putting effective data management into place throughout the information lifecycle you will ensure that your data will continue to work for you as productively as the research that produced them.

News | **Events**

**DCC roadshow success**  
9 November, 2010 | in DCC News

**Full programme for IDCC10 released**  
27 October, 2010 | in DCC News

**DCC Checklist Featured in New Guidelines for Effective Data Management Plans**  
27 October, 2010 | in Resources

**Research Data and Freedom of Information (FOI) - JISC Draft FAQs**  
20 October, 2010 | in What's New

**DPC/DCC What's New: Issue 30 now available**  
11 October, 2010 | in What's New

**Practical Guides to Digital Curation & Digitization**  
11 October, 2010 | in Publications

**National Science Foundation**  
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## Sustainable Digital Data Preservation and Access Network Partners (DataNet)

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PROGRAM GUIDELINES

Solicitation [07-501](#)

SYNOPSIS

Science and engineering research and education are increasingly digital and increasingly data-intensive. Digital data are not only the output of research but provide input to new hypotheses, enabling new scientific insights and driving innovation. Therein lies one of the major challenges of this scientific generation: how to develop the new methods, management structures and technologies to manage the diversity, size, and complexity of current and future data sets and data streams. This solicitation addresses that challenge by creating a set of exemplar national and global data research infrastructure organizations (dubbed DataNet Partners) that provide unique opportunities to communities of researchers to advance science and/or engineering research and learning.

The new types of organizations envisioned in this solicitation will integrate library and archival sciences, cyberinfrastructure, computer and information sciences, and domain science expertise to:

- provide reliable digital preservation, access, integration, and analysis capabilities for science and/or engineering data over a decades-long timeline;
- continuously anticipate and adapt to changes in technologies and in user needs and expectations;
- engage at the frontiers of computer and information science and cyberinfrastructure with research and development to drive the leading edge

And, yes, this is déjà vu all over  
again



# Here's the UK – huge enrollment growth coupled with diminished state funding...

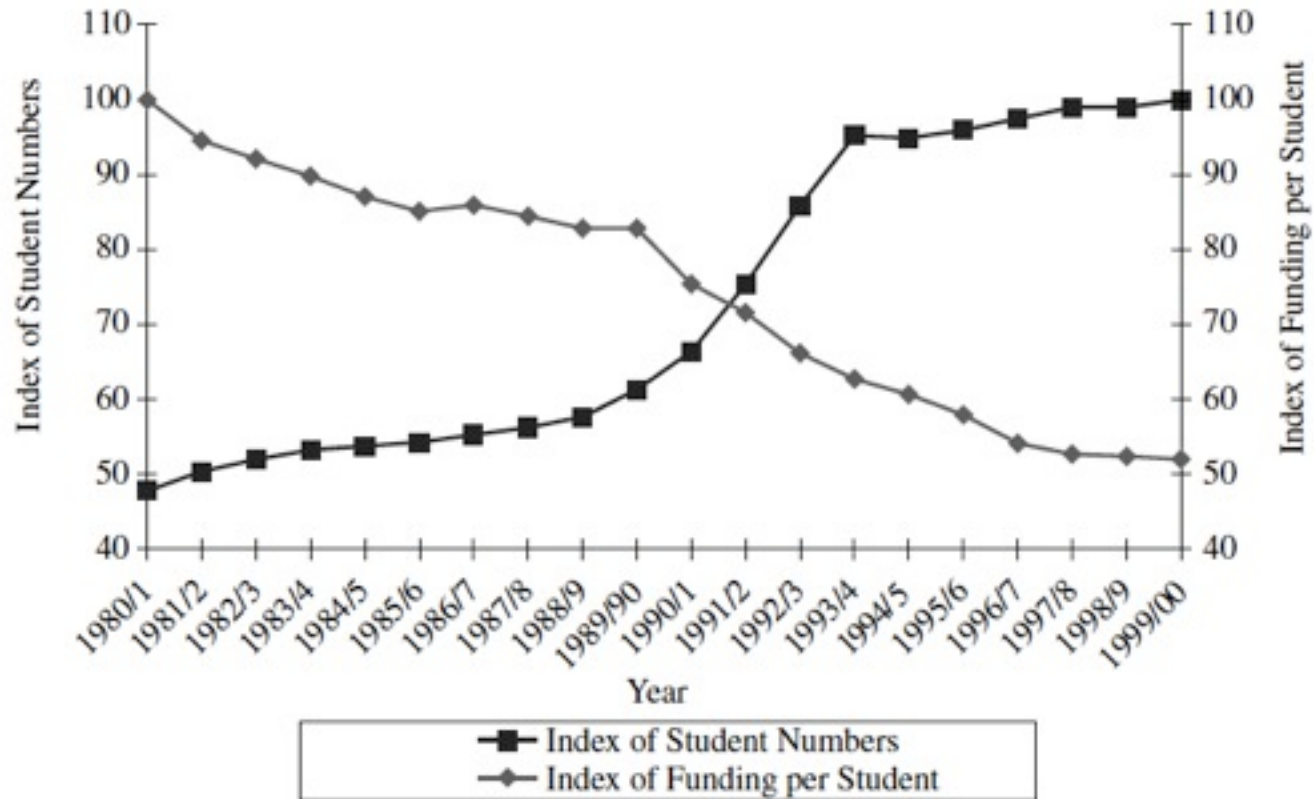



Fig. 1. *Index of Student Numbers and Public Funding for Higher Education, 1980/1–1999/2000*  
Source: Department for Education and Skills

...has improved participation rates at the cost  
of

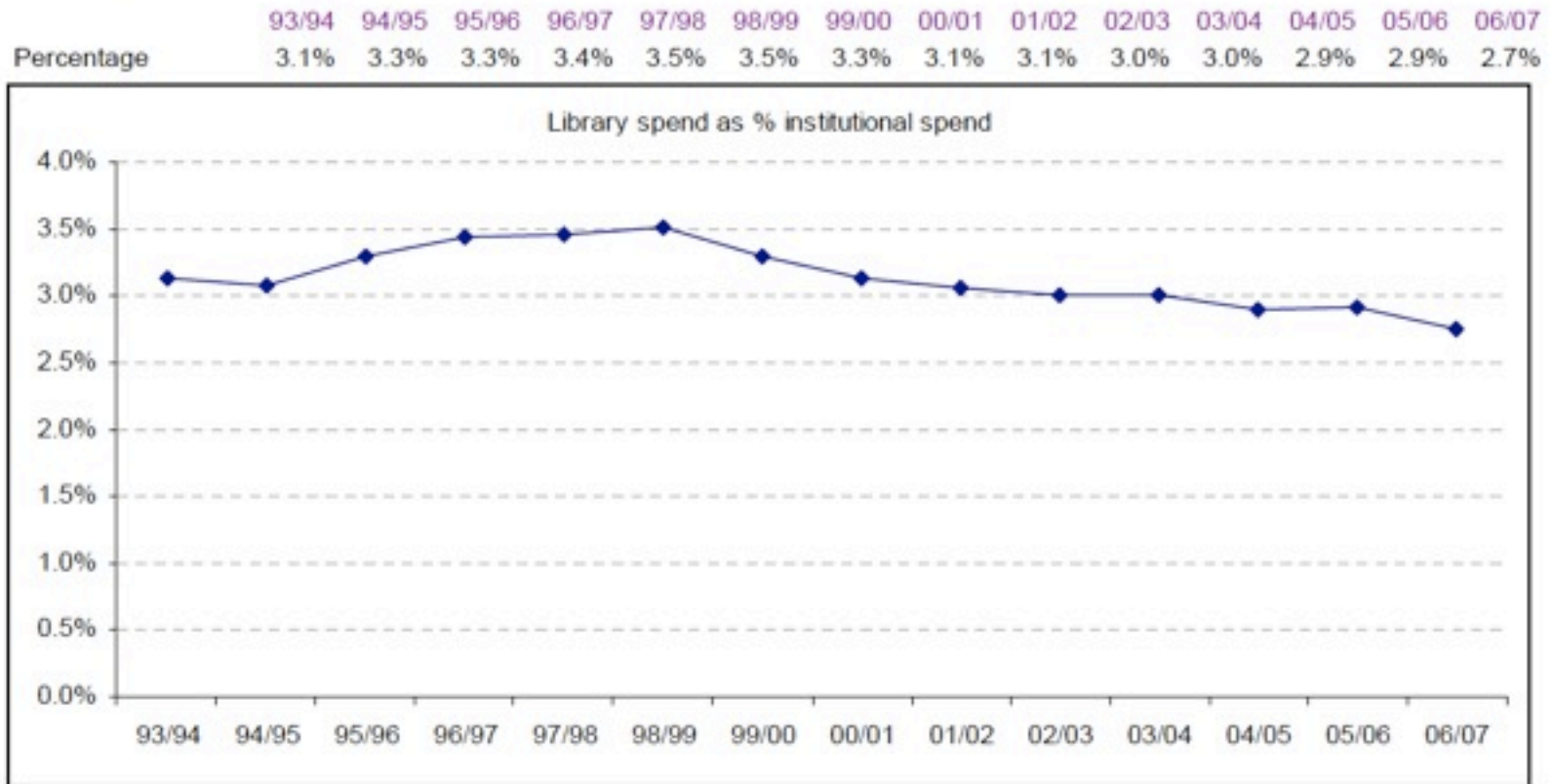


- deteriorating student : faculty ratios (from 9 :1 in 1970 to 17 : 1 in 2000)
- deteriorating faculty salaries (which compare poorly to OECD countries and make faculty recruitment and retention challenging in selected areas (computer science business and law))

# And a diminishing share for libraries of the institution's budget



**Graph 4: Library expenditure as a % of total institutional expenditure**



that is used to pursue rising cost of materials...



- 51% increases in journal subscription prices 2001-2006
- 37% increase in academic monographs prices 1996-2005 when library acquisitions expenditures increased only 27%

and etc

# The research libraries' response transatlantically has been transformational and is well known



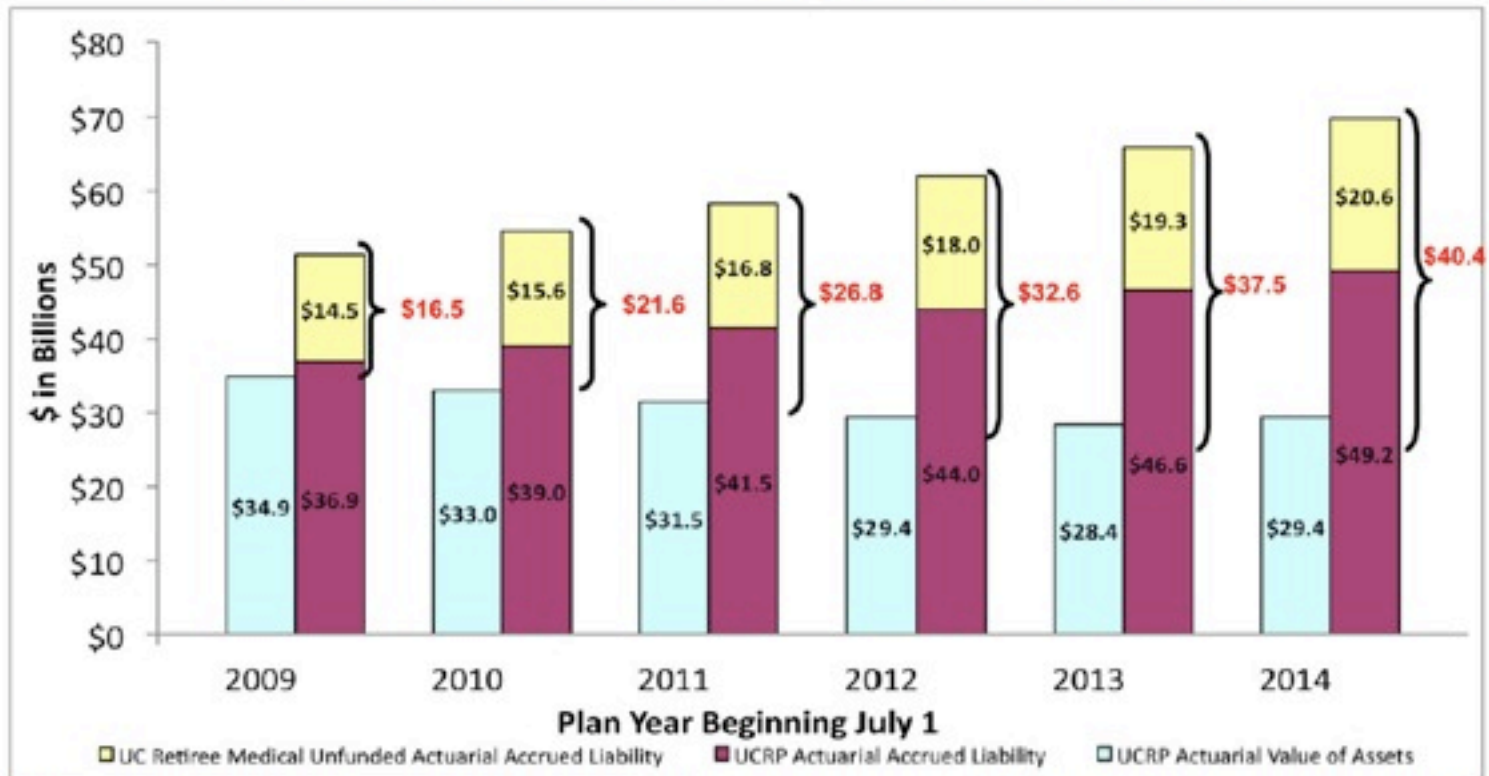
More or less chronologically it has seen

- shared high-density storage
- shared resource discovery and delivery services
- consortial purchasing
- some shared cataloging
- some shared systems (institutional repository, digital curation)
- some shared print and
- mass digitization in support of shared print

# When, in UC, the libraries' challenges are compounded by a little local difficulty

liability. The combined unfunded liabilities for UCRP and the Retiree Health programs are estimated at over \$40 billion in 2014 as shown in the chart that follows:

**PEB Assets and Liabilities for Campuses and Medical Centers**



Calculations assume a 7.5% return on UCRP investments but do not include 2009-2010 returns above this amount.

# The university is forced to ask



what do you do if facing

- 10% annual reduction in buying power is not unlikely for the next 5-7 years
- new library building is unlikely to happen soon

Or simply

- After shared services, what?

# Some initial thoughts about



- Collection
- Collection services
- “this-generation” services

And

- The future role(s) for the university library

# Collection management: context



- HDFs fill by 2014 (they hold 35% of the collection and get 438k of the 730k volumes added each year)
- 51% of the libraries' 35m volumes are duplicates
- 80-90% of current journals are online, many with back-files
- OCLC estimates that >30% of an ARL University library's monograph titles are already digitized by Google and deposited in Hathitrust

AND Courant has shown that the life-cycle cost of managing a digital volume is an order of magnitude less than for a printed one

# So...must we consider



Aggressively de-duplicating collections to add to shelf space in a time of no building?

The following results in 20 year's worth of shelf space

- Back-files of print journals (6.4m volumes)
- Duplicate printed books (4.5m volumes)
- Print copies of digitized books owned by UC and held in HathiTrust (2m volumes)
- Print copies of licensed online journal that are reliably preserved (1.8m volumes)
- Integrate 7 government document repositories

# Acquisitions and collections services: context

Despite extensive shared services (e-resource acquisitions and cataloging, shared print and digital repositories), we still operate nine or ten of many things and

like other leading research libraries expenditure on acquisition, care, and feeding of redundant general collections eats into that available for unique distinctive ones

# So... should libraries dramatically cut cost by sharing even more services

- Sharing a single cloud-based ILS and a single database of record
- Uniformly adopting shelf-ready and abandoning redundant cataloging operations
- Acting regionally or even nationally in service centers focusing on, for example,
  - government documents
  - [non-roman] cataloging
  - Integrated multi-site approval plans

And would such “fixes” yield lasting results or simply plug the dike for a bit longer



Should we re-evaluate collection principles

- only invest in open access with dollars re-allocated from traditional subscriptions
- only subscribe to journals where pricing models are sustainable
- stop acquiring anything that is available on the commodity internet (seeking to preserve commodity collections through web-scale partnerships)

Invest in the general uniquely, the unique generally

# Some less well-baked ideas about



- Institutional repositories – shouldn't these be integrated into a suite of publishing services including revenue-based ones, and thus be afforded an opportunity of sustaining themselves financially
- shouldn't digital curation be treated as special collections, with institutional emphases determined by local academic and collection strengths

# The libraries future role – intermediating between the university and the cloud



in an era when...



- the clouds will get bigger; the libraries smaller
- shared services will achieve greater scale and reach
- local services will focus on special collections tied to unique academic program strengths and in turn seed the clouds

# Core values and historic functions will be preserved



BECAUSE THE LIBRARY IS  
FUNDAMENTALLY TRANSFORMED