

Los Alamos National Laboratory



The Institutional Repository Movement

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Overview

Purpose: Provide information to generate discussion/learning among STIP Members.

- Background—electronic information
- Why is the Institutional Repository important to us?
- What are key management/policy issues?
- What can we do to support the movement?

Background—Pre 1990

Citation databases—including citations to journal articles, technical reports, and patents

- Standalone products with citation information
- Many users received information from expert intermediaries

Research Information—paper based framework

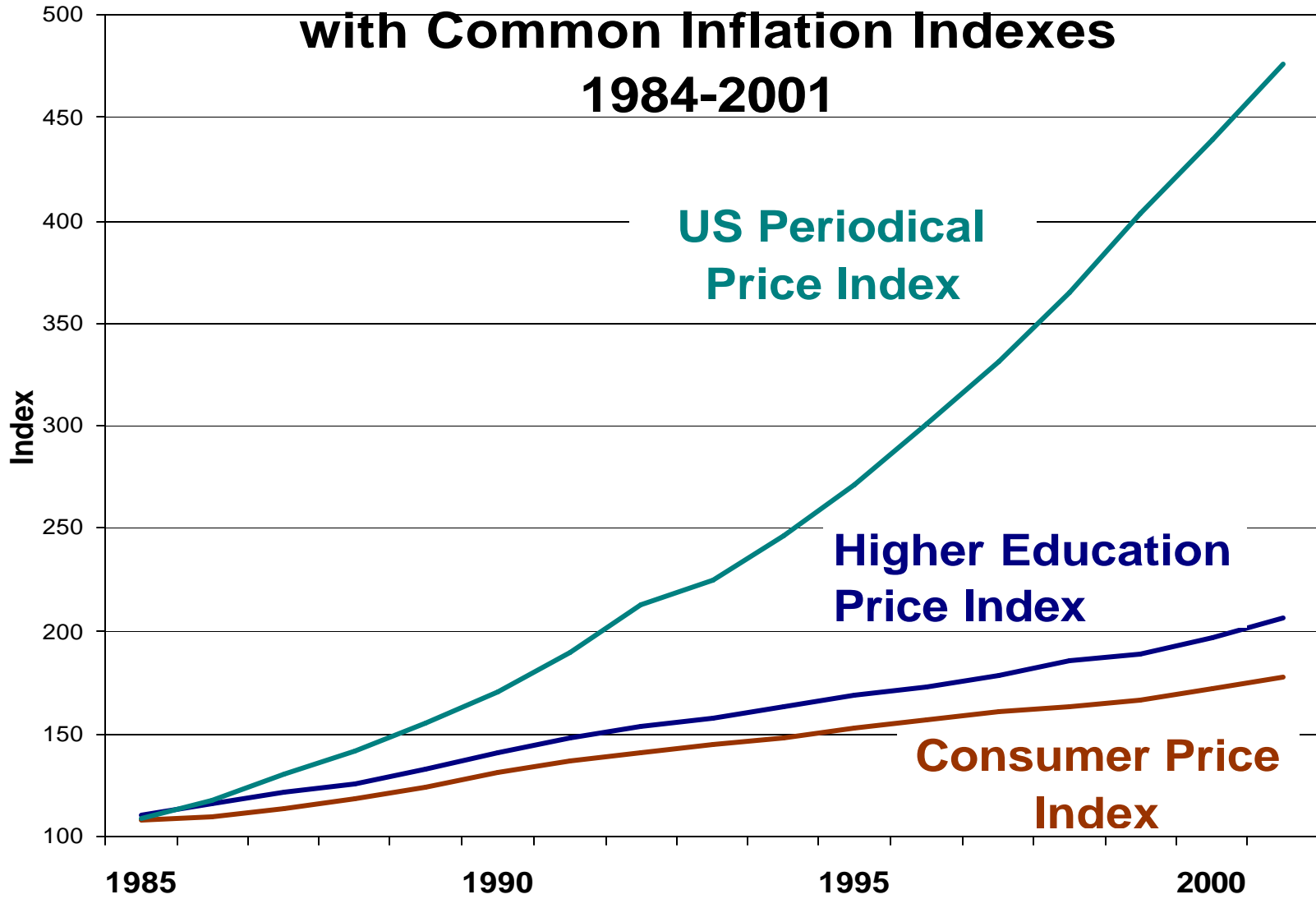
- Research journals
- Technical reports
- Preprints

Revolution in Publishing: 1991-2001

Journal Publisher activities provide incentives to look at Institutional repositories.

- Monopolies—article ownership control
- Economics—substantial increases in price
 - Crisis for institutions with subscriptions
- Slow at financing electronic change
 - Pricing of electronic journals doesn't reflect costs.
- Environment positioned for change.

Periodical Price Increases in Comparison with Common Inflation Indexes 1984-2001



Revolution in Publishing: 1991-2001

High Energy Preprints/working papers—1991-

- Automated sharing of preprints using FTP and email.
- More efficient communication and sharing
- Inexpensive alternative to formal publishing
- Speeded up scientific communication
- Deliberate alternative to scholarly publishing
- Publishers took notice
- Note: pre-Web environment

Revolution in Publishing—1994-2001

World Wide Web—1994—framework for desktop research.

Full text journal access—1998--publishers allowed online access to journal articles.

- Elsevier—Tulip project basis for access
- APS—work with PROLA
- American Chemical Society

Revolution in Publishing—1999-

Linking digital articles to database records

- Hardwired linking using SICI's and DOI's
- Contextual linking with Special Effects (SFX) technology.
- Journal article reference linking—Weblike

Web (free) citation databases linking to full text.

- Pub Med, Scirus, DOE Infobridge, Google

Revolution in Publishing—OAI—1999-

Open Archives Initiative

Purpose: build collaborative partnerships to increase effectiveness of global scholarly communication based on—

- Decentralized user-centric system
- Metadata harvesting protocol
- Maintain interoperability across heterogeneous archives
- Facilitate multidisciplinary research across diverse communities.

Electronic Environment--Current

- Publishers consider electronic journal copy as archival copy.
- Prices for scholarly journals continue to rise
- Library budgets flat or declining
- Universities unhappy with current publishing atmosphere—availability decreasing
 - SPARC initiative
 - Public Library of Science
- Institutional Repositories an alternative in addition to formal publishing.

Institutional Repositories--Definition

Digital collections that capture and preserve the intellectual output of an institution.

Purpose

- Stimulate communication and innovation in a disaggregated publishing structure
- Increase institutional quality, visibility, prestige and public value.

Scholarly Publishing Components

- Registration → establishes intellectual priority of idea, concept or research
- Certification → certifies quality/validity of research
- Awareness → ensures dissemination and access to research
- Archives → preserves research for future use
- Result → integrated system to evaluate & reward public performance.

Successful Institutional Repositories

- Must support the needs of scholarly communication—registration, certification, awareness and archiving.
- Must be defined institutionally to present scholarly content generated by institution.
- Must be cumulative & perpetual to ensure that access is preserved
- Interoperable & open access—available to researchers who need information

Rationale

- Increases institutional visibility & prestige by clarifying institutional sources of research
- Demonstrates institution's value to public & private funding sources
- Formally manages institutional information assets
- Archive of institutional production
- Complements existing scholarly publishing model
- Enhances timely communication

Rationale

- Key component in the evolving disaggregated scholarly publishing model.
- Part of global network of interoperable, distributed content repositories.
- Complements existing scholarly publishing model. [duplication deliberate]

Management/Policy Decisions

- Repository content
 - Published materials
 - Technical reports
 - Preprints
- Repository communities
 - Contribution
 - Access

Management/Policy Decisions

- Technical & systems issues
 - OAI foundation for metadata--standards
 - Infrastructure—Eprints/Dspace
 - Scalability
 - Persistent naming
- Development & operating costs
 - Labor, software, hardware, network & overhead

Management/Policy Decisions

- Ability to migrate and ensure system survival
 - Standards & protocols defined up front
- Preservation
- Interoperability and open access
- Roles across DOE Complex
 - Individual Institutions & OSTI
- Collaboration—basis of successful implementation

Setting Up a Repository

- Initial installation of an OAI-compliant e-print repository is relatively straightforward
 - Repositories need collection policies
- Greatest challenge is getting researchers on board
- Costs:
 - Start-up costs low
 - Hardware, software, installation, policies and procedures
 - Medium-term costs higher
 - Advocacy – getting content, support, mediated submission
 - Ongoing costs significant
 - Metadata creation / enhancement, preservation

Repository Models

- **Distributed** – MIT individual faculty upload and manage their own scholarly output
- **Semi-distributed** – UC eScholarship assigns management responsibility to organizational units (research units, departments) that then assist faculty with uploading their papers.
- **Semi-centralized** - CalTech repository sites are set up for any university unit, but the library uploads the papers on the faculty's behalf. Its digital collections range from computer science technical reports to theses and dissertations.

Institutional Repositories: Roy Tennant, 9/15/02

Obstacles to Implementation

- Lack of fundamental understanding of the importance of the movement, and how to implement it
- Technical issues:
 - Global level (OAI, ...) & institutional level
- Unknown cost parameters
- Current journal system role in formal publishing
 - Perceived copyright issues
- **Institutional management / researcher participation**
 - Responsible organization for repository

Action ! → Repositories Reduces Risk

- Educate ourselves on this important movement and our institutional role
- Understand copyright rules for Government contractors—match policy!
- Participate in institution & consortia-based pilot projects – help us experiment & build a new path...
- Support learned societies in establishing new roles in disaggregated model—e.g. APS
- Define & support alternative rewarding strategies: institutional, funding agencies, ...

Two Key Documents

- Raym Crow, “The Case for Institutional Repositories: A SPARC Position Paper, 2002.

<http://www.arl.org/sparc/IR/ir.html>

- SPARC Institutional Repository Checklist & Resource Guide

http://www.arl.org/sparc/IR/IR_Guide.html