

# A Demand-Side View of the Future of Library Collections

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# My Approach:

1. To be exploratory
2. To be provocative
3. This is a preliminary view, but one that I believe could (or should) lead to a reconsideration of library practice

# Underlying Assumptions:

- Collections drive library practice because most library resources go into purchasing, organizing, and managing them. In addition, libraries base much of their identity on their collections.
- Unless current collection practices are changed, libraries cannot change, except on the margins.

# Underlying Assumptions:

- Libraries must change.
- Therefore collection practices and strategies must change.

See: David W. Lewis, "The Innovator's Dilemma: Disruptive Change and Academic Libraries," *Library Administration & Management* 18(2):68-74 Spring 2004.

Clayton M. Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, Boston, Mass.: Harvard Business School Press, 1997.

# Underlying Assumptions:

- This change will be very hard
- We need to develop arguments and a vocabulary so we talk about it clearly
- To do this we need to have a clear conceptual understanding of what we hope to accomplish

# My Fear:

I will be the Daniel Gore of the early 21<sup>st</sup> century.

See: Daniel Gore, “Farewell to Alexandria: The Theory of the No-Growth, High-Performance Library,” in *Farewell to Alexandria: Solutions to Space, Growth, and Performance Problems of Libraries*, Edited by Daniel Gore, Westport, CT: Greenwood Press, 1976.

# Agenda for Today:

- Supply versus Demand driven collection strategies
- Present a model of demand for library collections over the next 25 years
- Explore implications of the model
- Propose alternative approach to collection practice based on the model
  
- Discussion

# Two Strategies for Collection Building

1. Supply Driven
2. Demand Driven



# Supply Driven Strategy

- Historically the way libraries have approached collections
- Build it and they will check it out
- Responds to expressed needs of high-end users — the faculty — and use them as allies to get more dollars so we can collect more stuff

# Supply Driven Strategy

- In a print world this was not a bad strategy, demand for materials was, and is, unpredictable and do serve a local community well print materials need to be in that community. So building large “just in case” collections made sense.
- Except...

# Supply Driven Strategy

- Leads to judging quality by size (as in the ARL rankings) and libraries are held captive to this standard
- Leads to inelastic demand for journals and the exploitation of this fact by commercial publishers

# Demand Driven Strategy

- Look at how collections are actually used, not at expressed need
- Modify collecting based on changes in the actual use
- Follow the user

# Model (really a thought experiment)

- Makes assumptions about the use of various types of information sources
- Projects these assumptions over 25 years — 2005 to 2030

# Variables in the Model

1. Use of the free web versus scholarly/library materials
2. Use of purchased library materials versus the use of open access materials
3. Database use versus the use of other purchased materials

# Variables in the Model

4. Use of paper books versus electronic books
5. Use of paper journals versus electronic journals
6. Use of books versus journals

# Problems:

1. Continuity over this time frame is unlikely
2. Categories are fuzzy
  - Is ebrary electronic books or a database?
  - What is ArtSTOR?
3. There is little or no good data of the sort need to drive the model



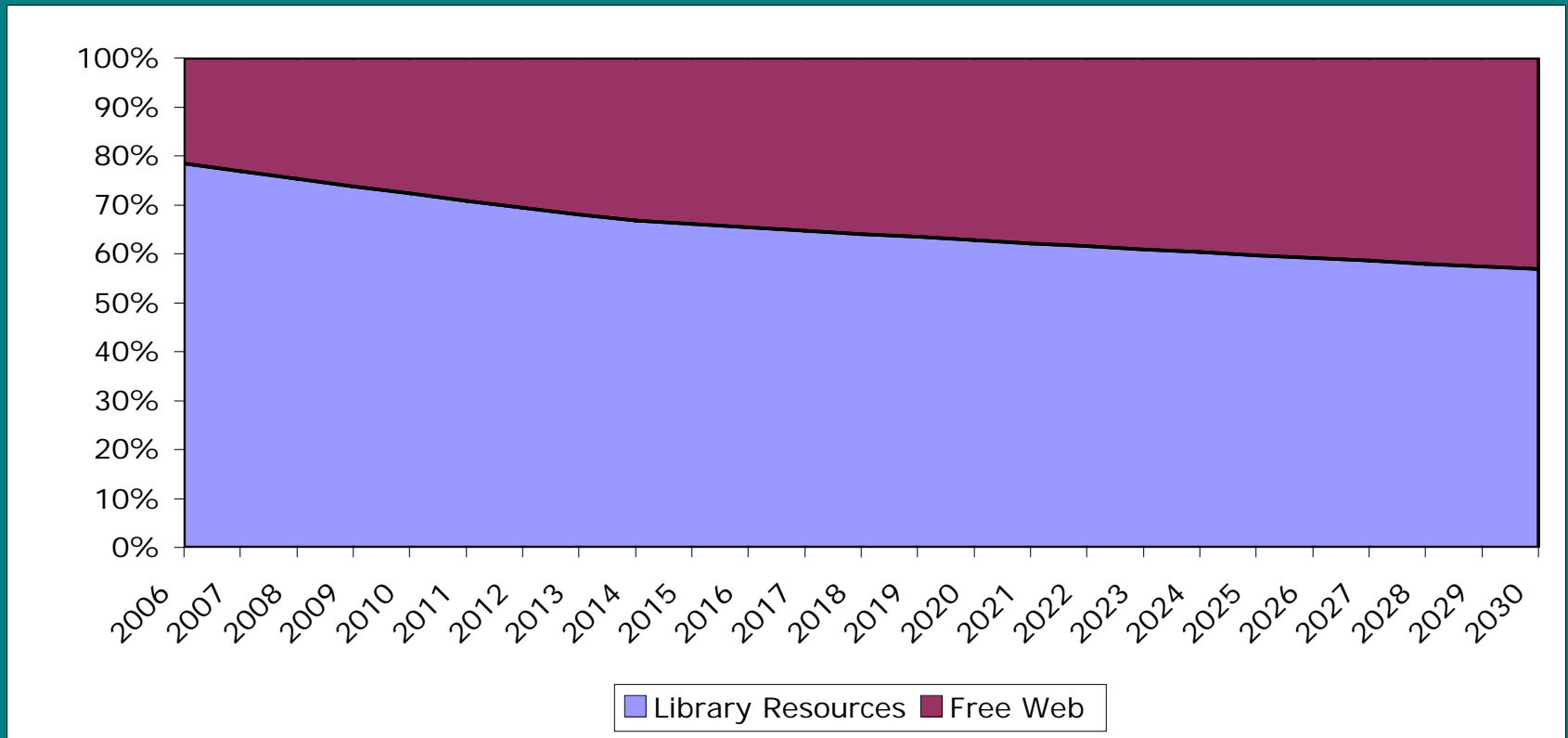
# My Solution

- Charge ahead
- Make up numbers that seem reasonable
- Look at the big picture and not worry too much about the details

# Open Web versus Library Materials

- Current Use: Library Materials 80%
- Change:
  - 2005 to 2009 — Library Materials decline 2% per year
  - 2010 to 2014 — Library Materials decline 2% per year
  - 2015 to 2019 — Library Materials decline 1% per year
  - 2020 to 2024 — Library Materials decline 1% per year
  - 2025 to 2030 — Library Materials decline 1% per year

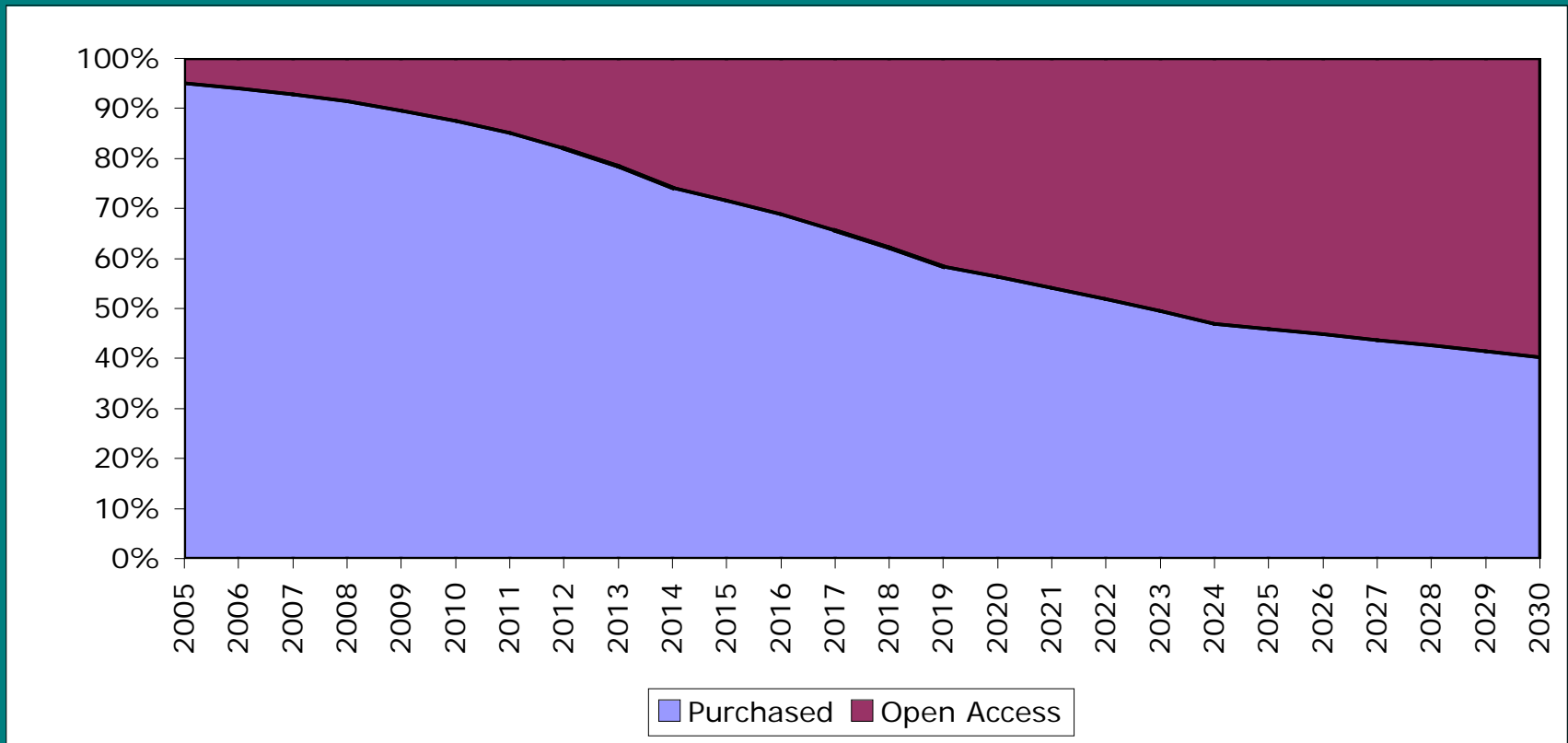
# Open Web versus Library Materials



# Purchased versus Open Access

- Current Use: Open Access 5%
- Change:
  - 2005 to 2009 — Open Access increases 20% per year
  - 2010 to 2014 — Open Access increases 20% per year
  - 2015 to 2019 — Open Access increases 10% per year
  - 2020 to 2024 — Open Access increases 5% per year
  - 2025 to 2030 — Open Access increases 2% per year

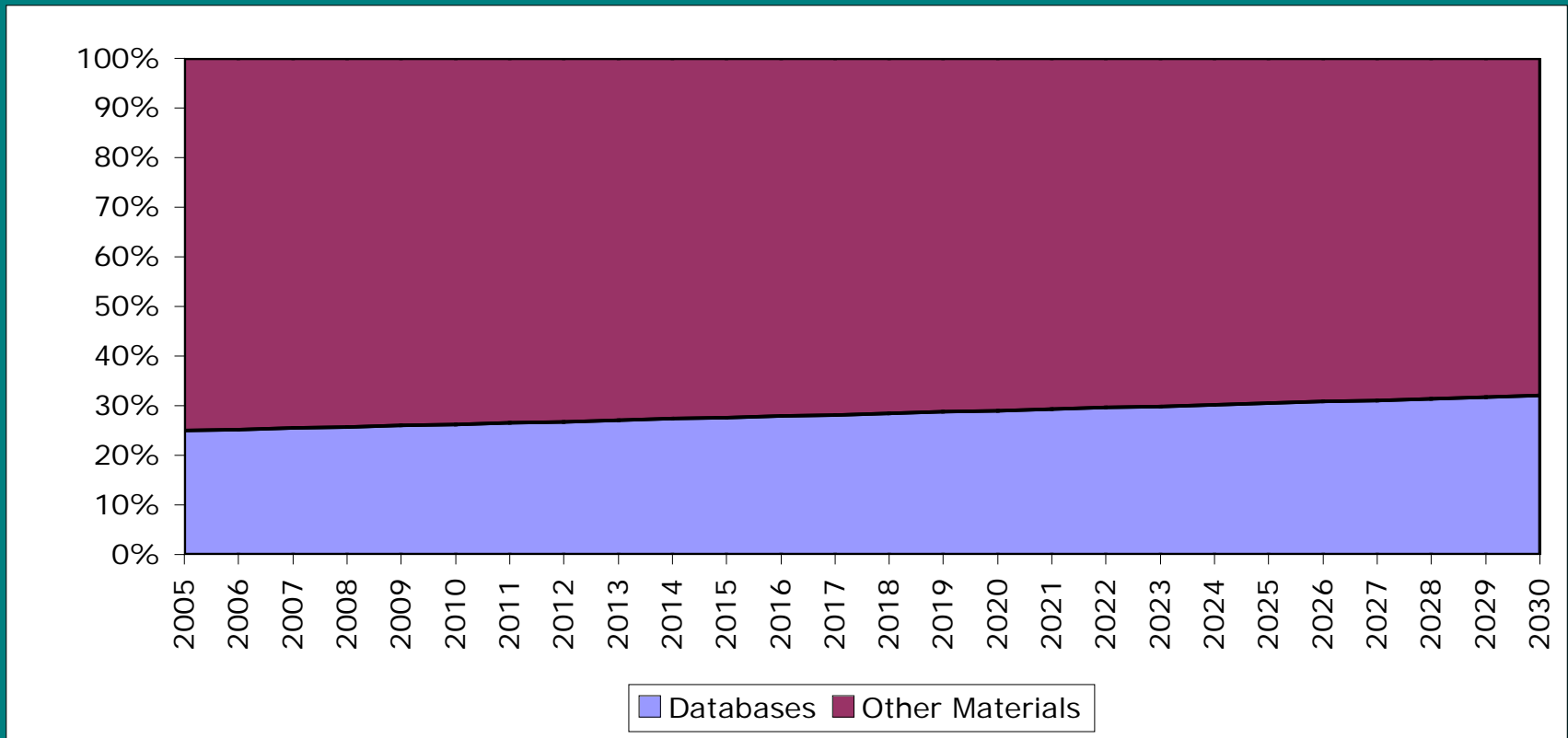
# Purchased versus Open Access



# Databases versus Other Purchased

- Current Use: Database Use 25%
- Change:
  - 2005 to 2009 — Database use increases 1% per year
  - 2010 to 2014 — Database use increases 1% per year
  - 2015 to 2019 — Database use increases 1% per year
  - 2020 to 2024 — Database use increases 1% per year
  - 2025 to 2030 — Database use increases 1% per year

# Databases versus Other Purchased

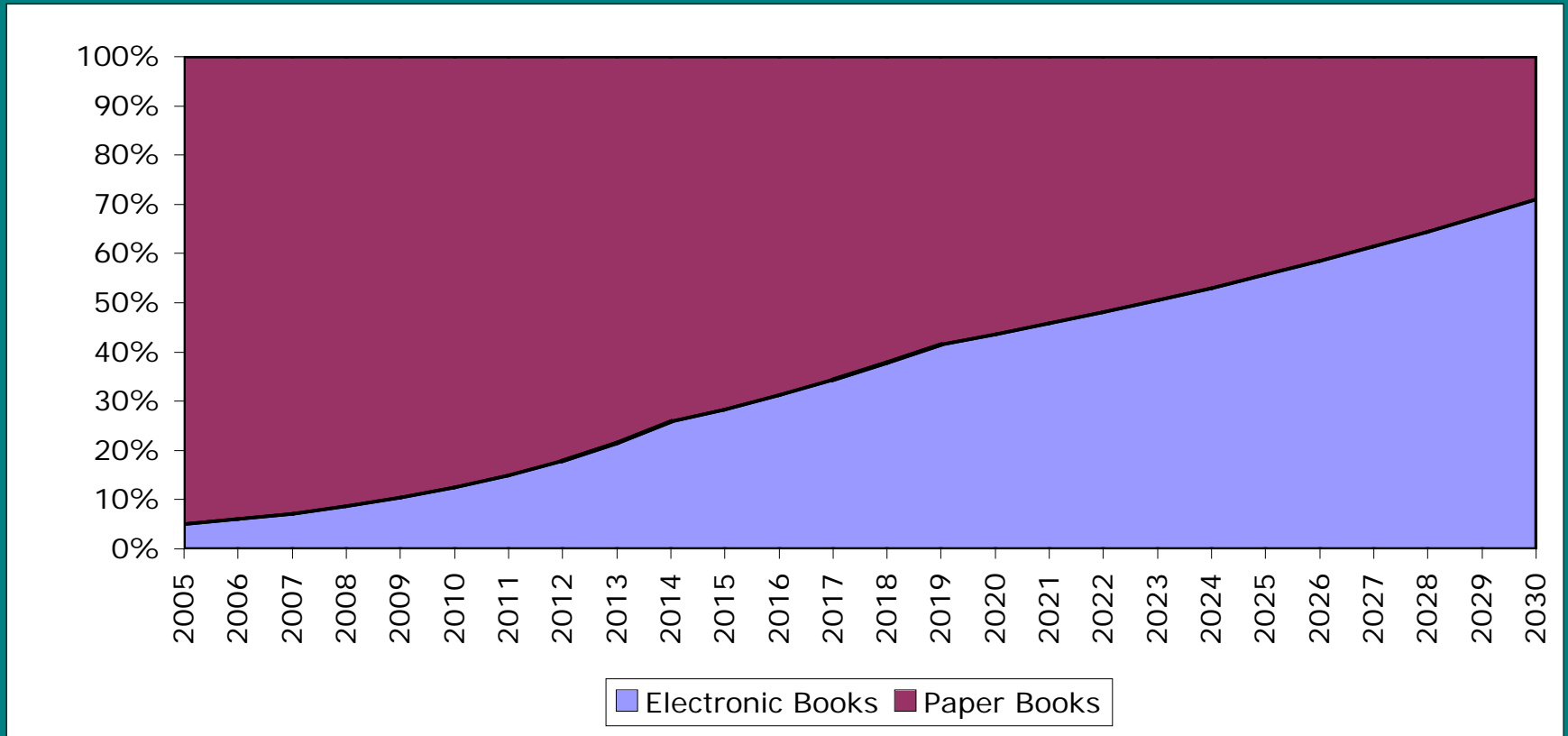


# Paper versus Electronic Books

- Current Use: Electronic Books 5% of use
- Change:
  - 2005 to 2009 — E-Book use increases 20% per year
  - 2010 to 2014 — E-Book use increases 20% per year
  - 2015 to 2019 — E-Book use increases 10% per year
  - 2020 to 2024 — E-Book use increases 5% per year
  - 2025 to 2030 — E-Book use increases 5% per year



# Paper versus Electronic Books



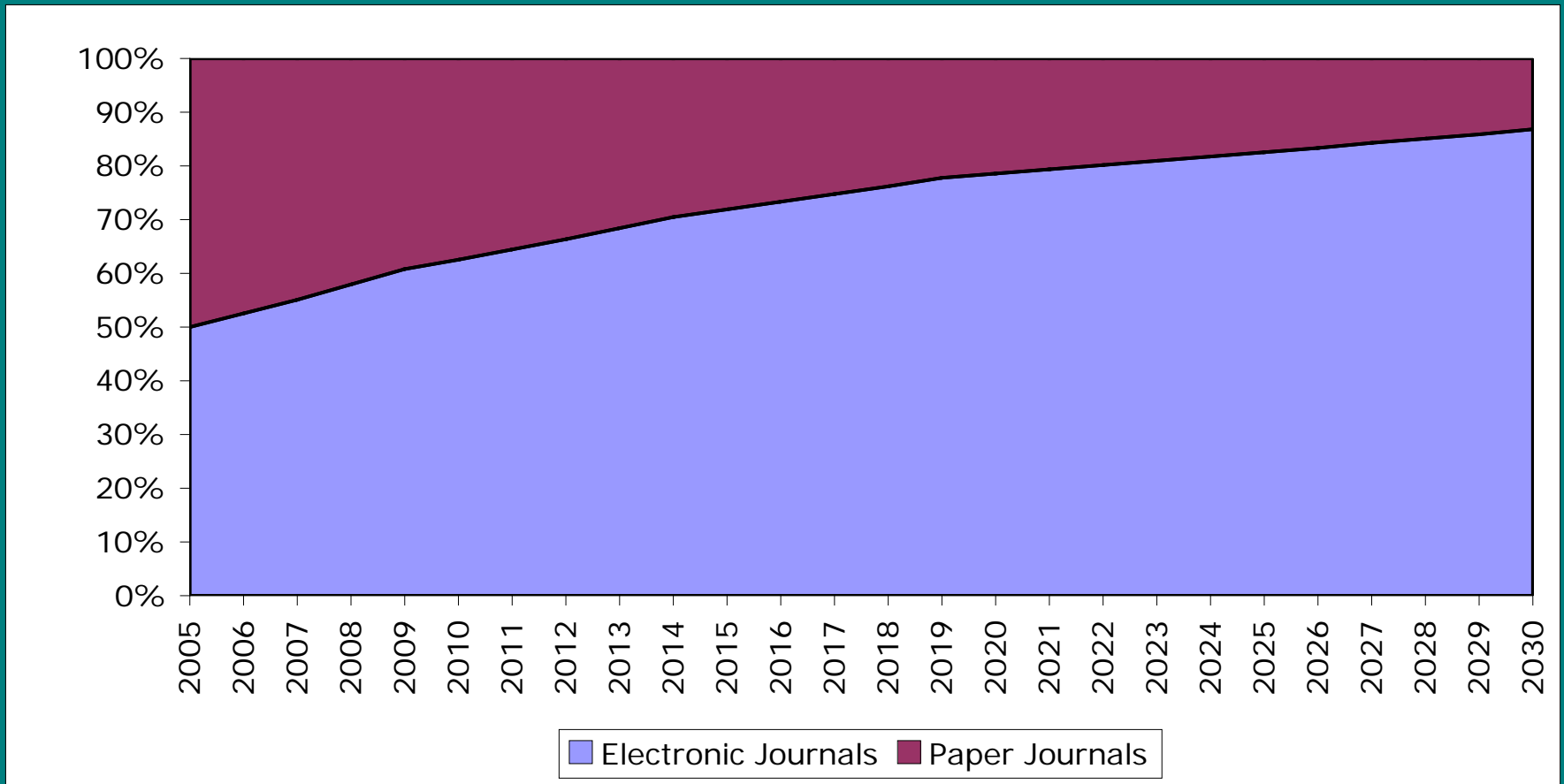
# Actual IUPUI Use

Book Circulations	312,268	95.2%
netLibrary	8,770	
ebrary (prorated)	6,942	
Total e-book	15,712	4.8%

# Paper versus Electronic Journals

- Current Use: 50% Paper — 50% Electronic
- Change:
  - 2005 to 2009 — Electronic Journal use increases 5% per year
  - 2010 to 2014 — Electronic Journal use increases 3% per year
  - 2015 to 2019 — Electronic Journal use increases 2% per year
  - 2020 to 2024 — Electronic Journal use increases 1% per year
  - 2025 to 2030 — Electronic Journal use increases 1% per year

# Paper versus Electronic Journals



# Actual IUPUI Use

Ebsco	301,742	
JSTOR	21,840	
Lexis/Nexis	168,767	
Total	492,349	87.6%

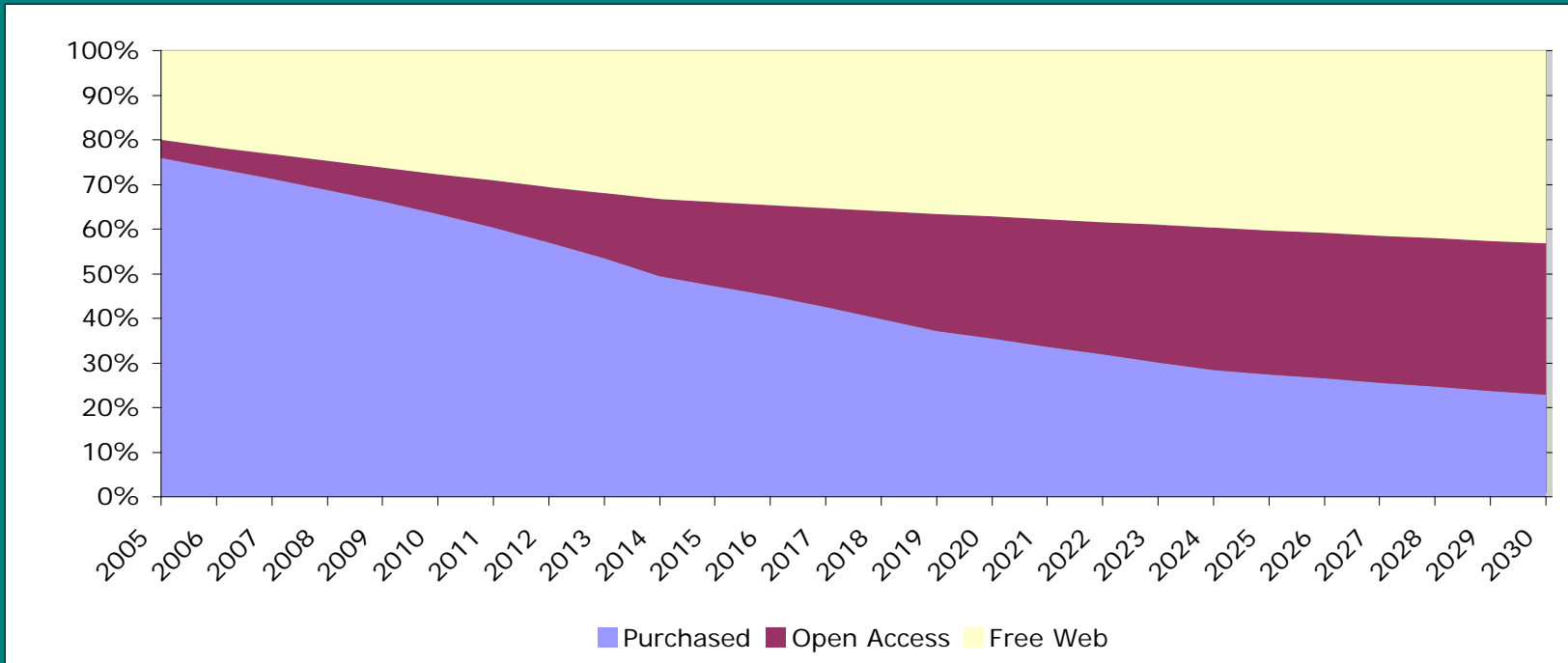
## Reshelving Count

doubled	69,746	12.4%
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# Books versus Journals

- Current Use: 40% Books - 60% Journals
- Change: None

# Results

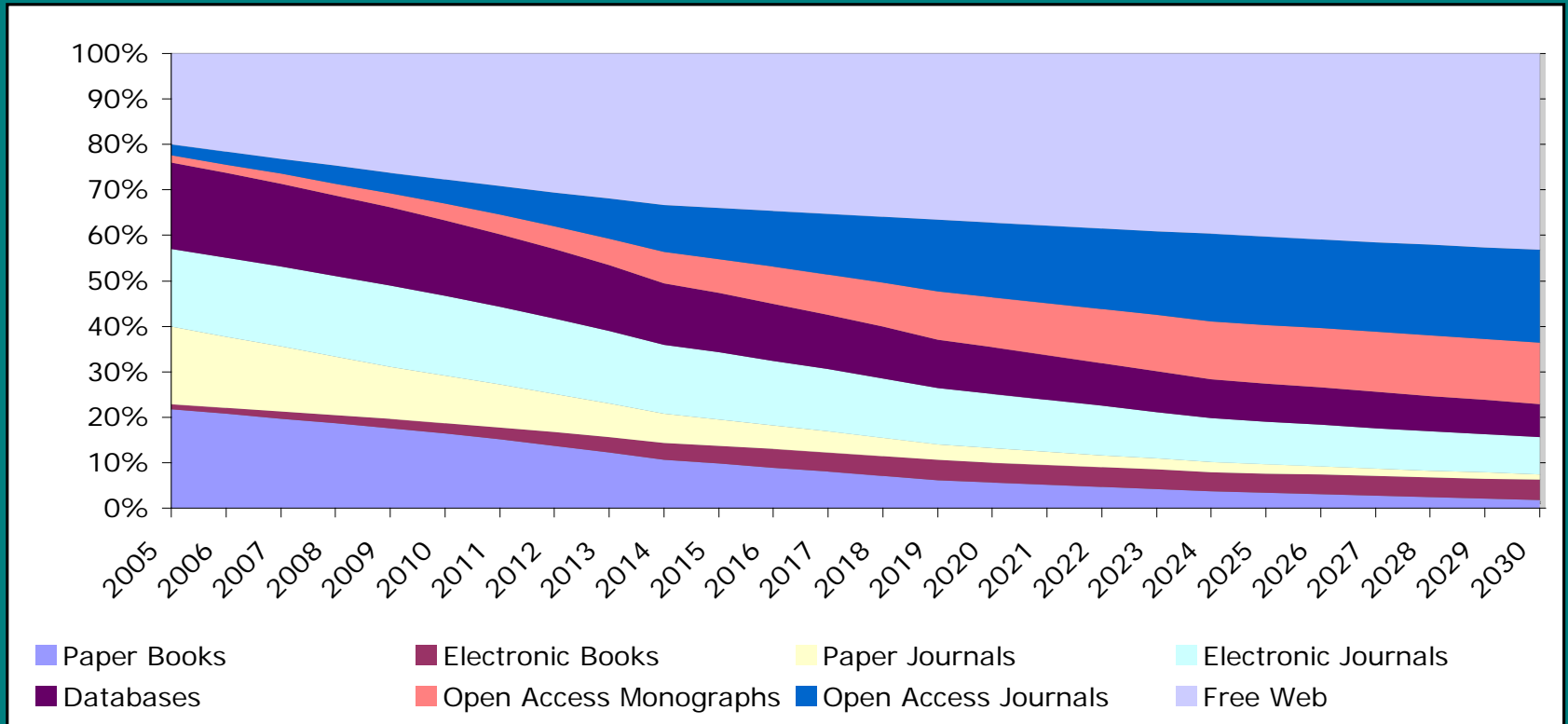


# Results — Use of Purchased versus Free Material

	2005	2010	2015	2020	2025	2030
Purchased Material	76.0%	63.3%	47.3%	35.4%	27.4%	22.9%
Free Matrerial	24.0%	36.7%	52.7%	64.6%	72.6%	77.1%



# Results



# Results

	2005	2010	2015	2020	2025	2030
Paper Books	21.7%	16.3%	9.8%	5.7%	3.4%	1.8%
Electronic Books	1.1%	2.3%	3.9%	4.4%	4.2%	4.4%
Paper Journals	17.1%	10.5%	5.8%	3.2%	2.0%	1.2%
Electronic Journals	17.1%	17.5%	14.8%	11.8%	9.4%	8.1%
Databases	19.0%	16.6%	13.1%	10.3%	8.4%	7.3%
Open Access Monographs	1.6%	3.6%	7.5%	11.0%	12.9%	13.6%
Open Access Journals	2.4%	5.4%	11.2%	16.4%	19.4%	20.3%
Free Web	20.0%	27.7%	34.0%	37.2%	40.3%	43.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

# Conclusions

- Purchased library collections will be used less
- Continued increases in collection budgets at the rates of the past several decades will not be justifiable
- Performance oversupply (Christensen)
- Open Access will need to be successful and libraries will have to help make this happen

# Implications: Collection Strategies

Model a hypothetical library under two scenarios

1. Continue current collecting practice
2. Base collecting on the patterns of use or demand — “Follow the User” model

# Hypothetical Library — Budget

	Budget	Units Purchased	Cost per Unit
Databases	\$500,000		
Paper Books	\$600,000	12,000	\$50.00
Electronic Books	\$25,000	500	\$50.00
Total Books	\$625,000		
Paper Journals	\$1,250,000	2,500	\$500.00
Electronic Journals	\$500,000	1,000	\$500.00
Total Journals	\$1,500,000		
Binding	\$25,000	2,500	\$10.00
Total	\$2,650,000		

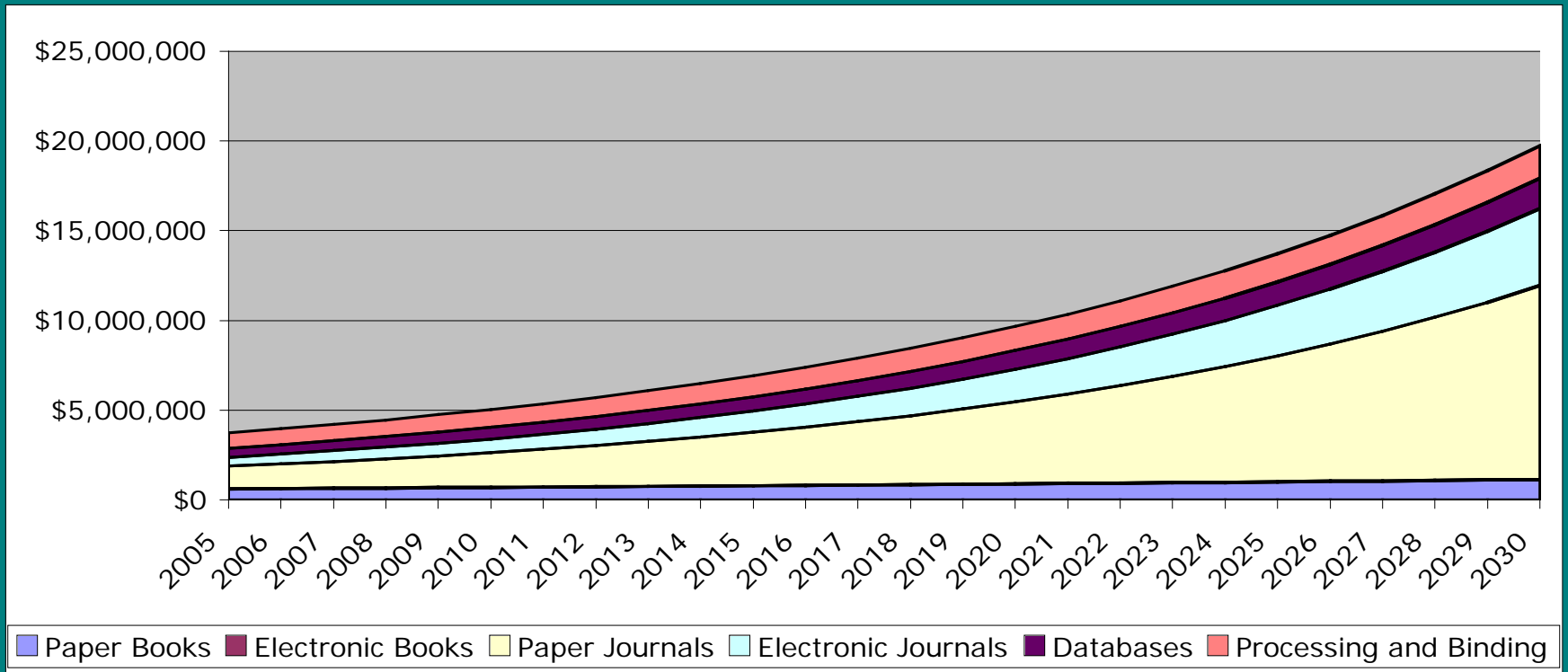
# Hypothetical Library — Processing Costs

	Cost	Annual Rate of Increase
Paper Book Processing	\$50.00	3.0%
Electronic Book Processing	\$25.00	3.0%
Paper Journal Processing	\$75.00	3.0%
Electronic Journal Processing	\$25.00	3.0%

# Hypothetical Library — Inflation Rates

	Annual Rate of Increase
Paper Books	2.5%
Electronic Books	2.5%
Paper Journals	9.0%
Electronic Journals	9.0%

# Results - Current Practice





# Results - Current Practice

	2005	2010	2015	2020	2025	2030
Books	\$625,000	\$707,130	\$800,053	\$905,186	\$1,024,135	\$1,158,715
Journals	\$1,750,000	\$2,692,592	\$4,142,886	\$6,374,344	\$9,807,719	\$15,090,391
Databases	\$500,000	\$638,141	\$814,447	\$1,039,464	\$1,326,649	\$1,693,177
Processing	\$850,000	\$985,383	\$1,142,329	\$1,324,272	\$1,535,195	\$1,779,711
Total	\$3,725,000	\$5,023,246	\$6,899,716	\$9,643,267	\$13,693,698	\$19,721,995
Annual Rate of Increase	6.0%	6.3%	6.7%	7.0%	7.4%	7.7%

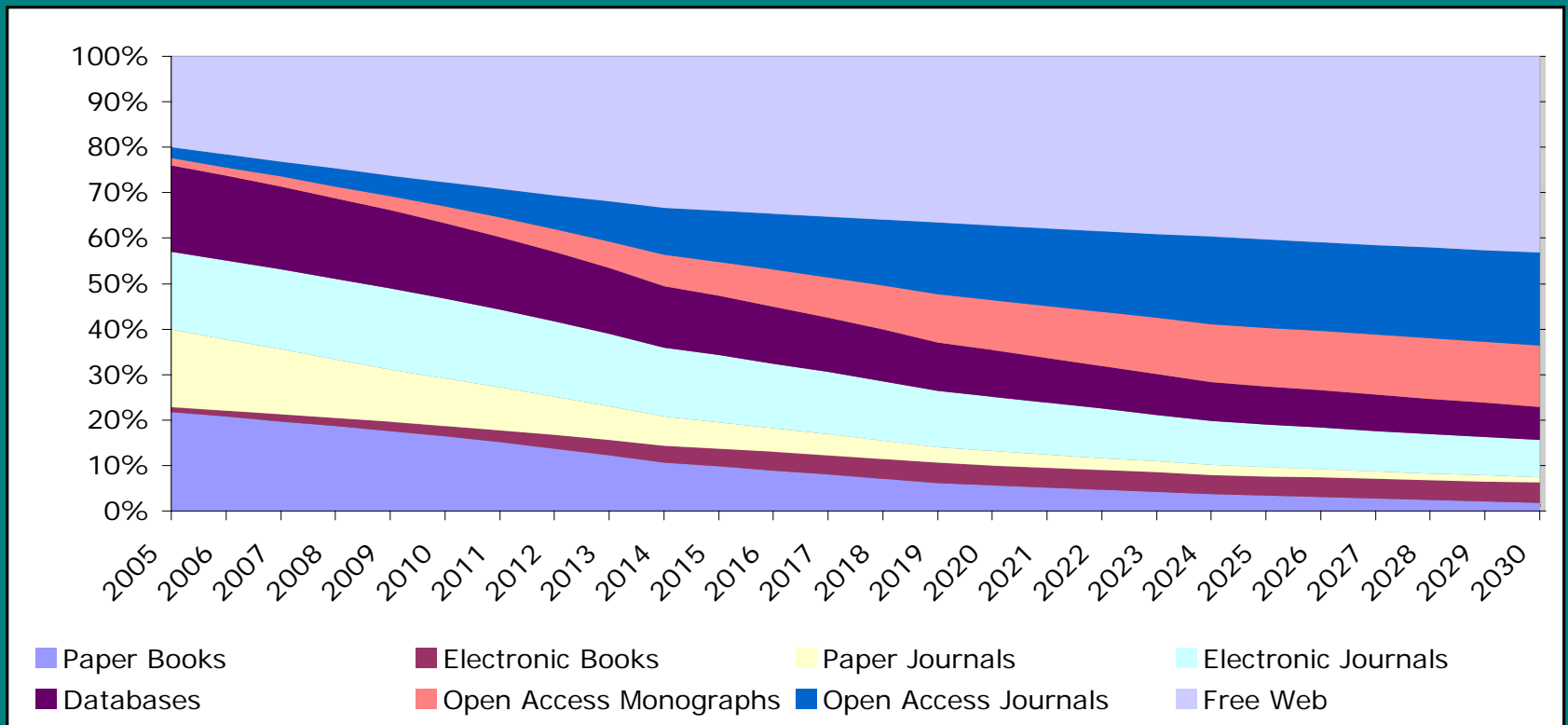
# Results - Price Increases

	2005	2030	Change
Books	\$50	\$93	85.4%
Journals	\$500	\$4,312	762.3%

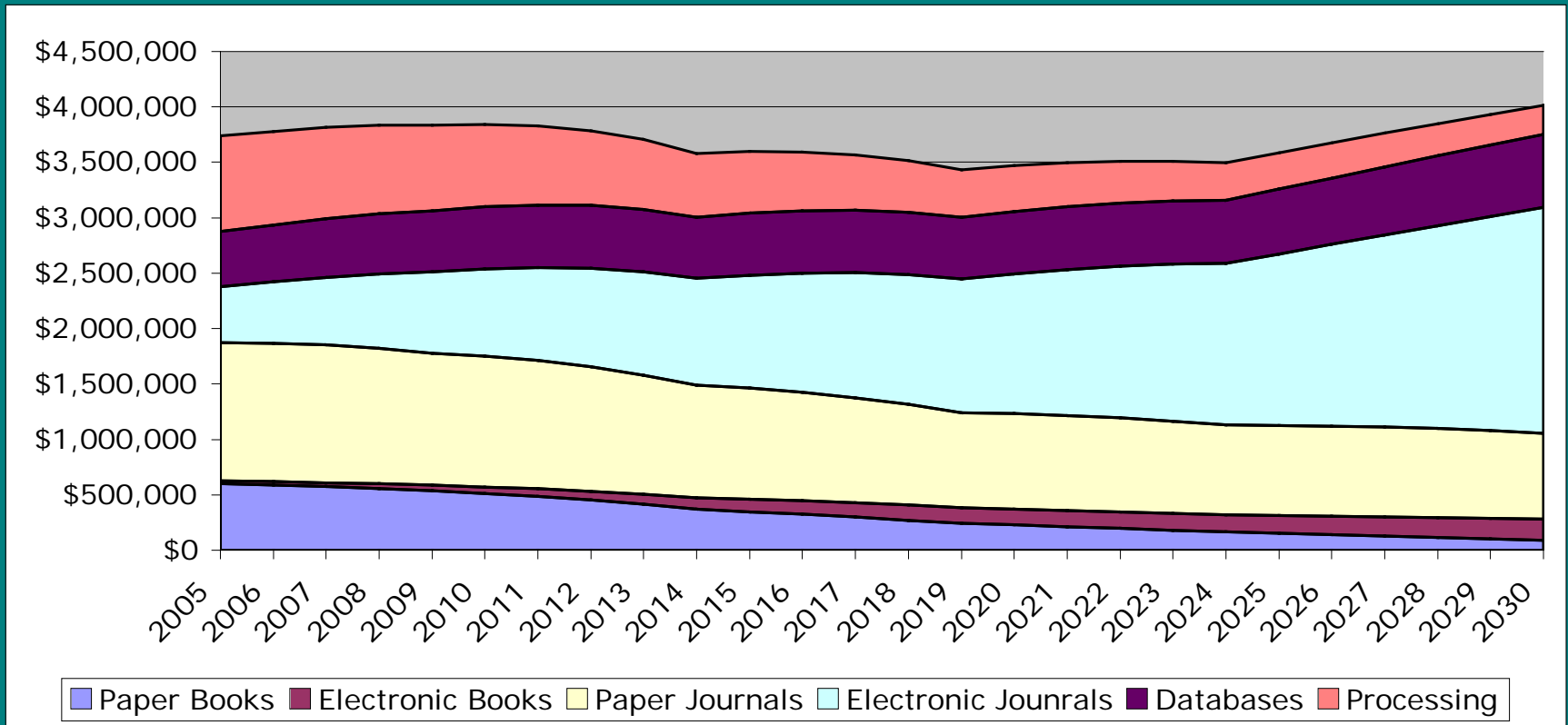
# “Follow the User” Collection Strategy

- Begin with current collecting patterns
- Change the number of items purchased in a category based on the changes in use
  - For example, if paper book use declines 2%, buy 2% fewer books
- Same processing and inflation assumptions

# “Follow the User” — Guess What Happens



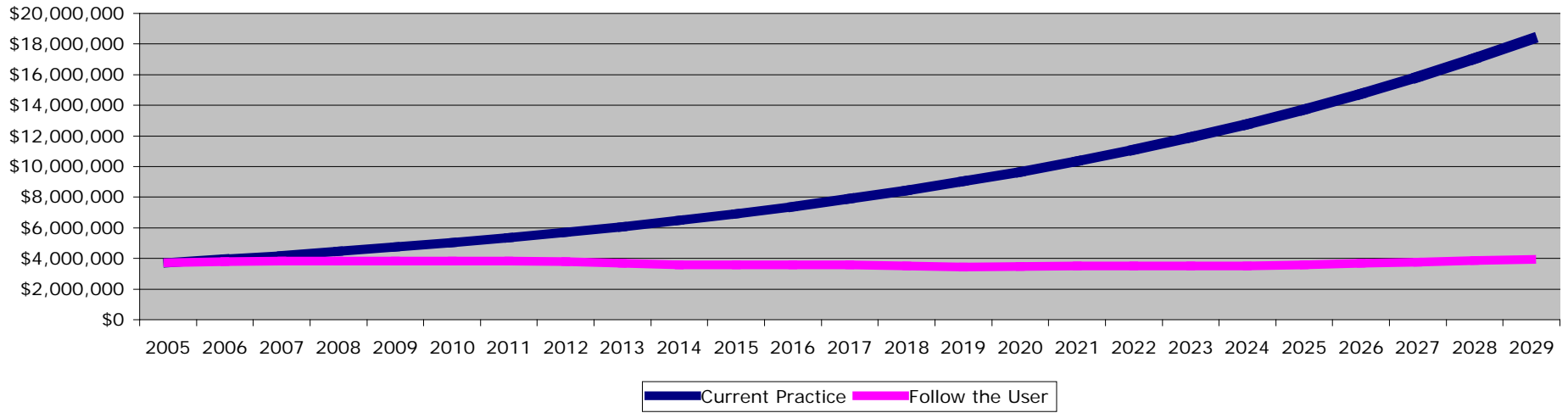
# Results — “Follow the User” Collection Strategy



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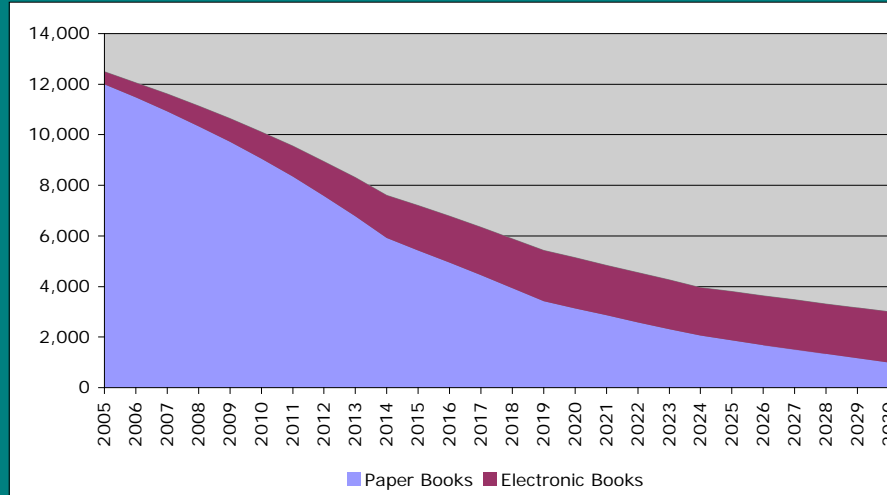
	2005	2010	2015	2020	2025	2030
Books	\$625,000	\$572,028	\$460,629	\$371,387	\$311,104	\$278,228
Journals	\$1,750,000	\$1,966,971	\$2,021,841	\$2,121,829	\$2,363,123	\$2,817,279
Databases	\$500,000	\$558,763	\$559,841	\$562,114	\$583,977	\$653,600
Processing	\$850,000	\$743,799	\$553,960	\$413,725	\$326,822	\$266,776
Total	\$3,725,000	\$3,841,562	\$3,596,271	\$3,469,056	\$3,585,025	\$4,015,883
Annual Rate of Increase	1.5%	0.2%	0.4%	1.7%	2.6%	2.1%

# Cost Comparison

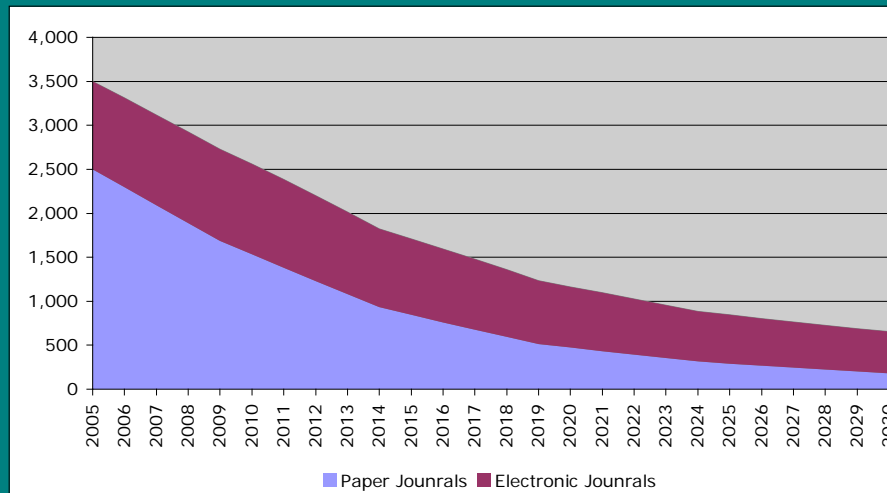


# Results — “Follow the User” Collection Strategy

## Books



## Journals





# Results — “Follow the User” Collection Strategy

	2005	2010	2015	2020	2025	2030
Paper Books	12,000	9,058	5,433	3,139	1,871	997
Electronic Books	500	1,054	1,763	1,990	1,926	2,005
Total Books	12,500	10,112	7,197	5,129	3,797	3,001
% of 2005		80.9%	57.6%	41.0%	30.4%	24.0%
Paper Journals	2,500	1,531	845	472	291	180
Electronic Journals	1,000	1,025	863	693	552	473
Total Journals	3,500	2,557	1,708	1,165	843	653
% of 2005		73.1%	48.8%	33.3%	24.1%	18.7%

# Results — “Follow the User” Collection Strategy

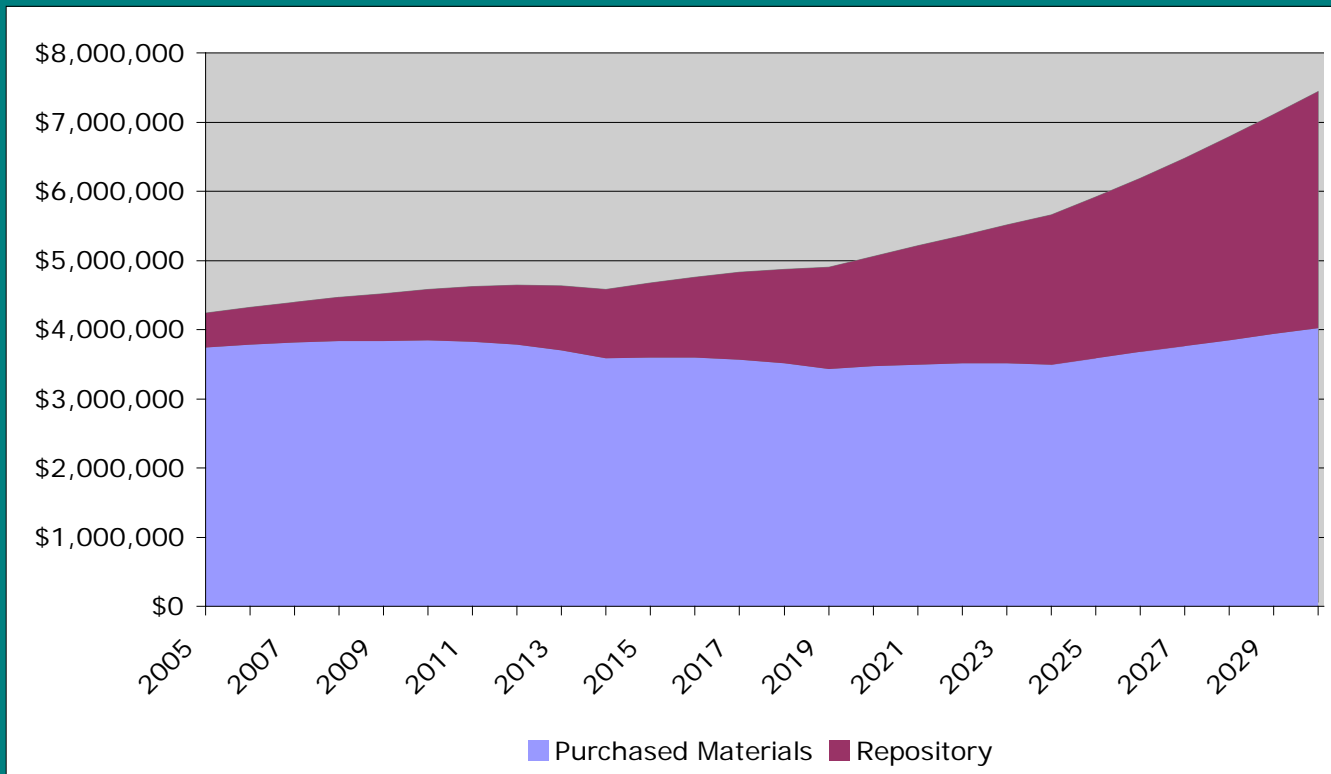
	2005	2010	2015	2020	2025	2030
Book Use	22.8%	18.7%	13.7%	10.1%	7.6%	6.2%
Change		-18.1%	-26.7%	-26.6%	-24.2%	-18.4%
Books Purchased	12,500	10,112	7,197	5,129	3,797	3,001
Change		-19.1%	-28.8%	-28.7%	-26.0%	-21.0%
Journal Use	34%	28%	21%	15%	11%	9%
Change		-18.1%	-26.7%	-26.6%	-24.2%	-18.4%
Journals Purchased	3,500	2,557	1,708	1,165	843	653
Change		-26.9%	-33.2%	-31.8%	-27.6%	-22.5%

# “Follow the User” Collection Strategy Comments

1. This version of a “follow the user” strategy is probably too aggressive, but the general approach makes sense
2. Decreasing purchased collections is only one part of what is required
3. Other part is need for libraries to support open access

# With Repository

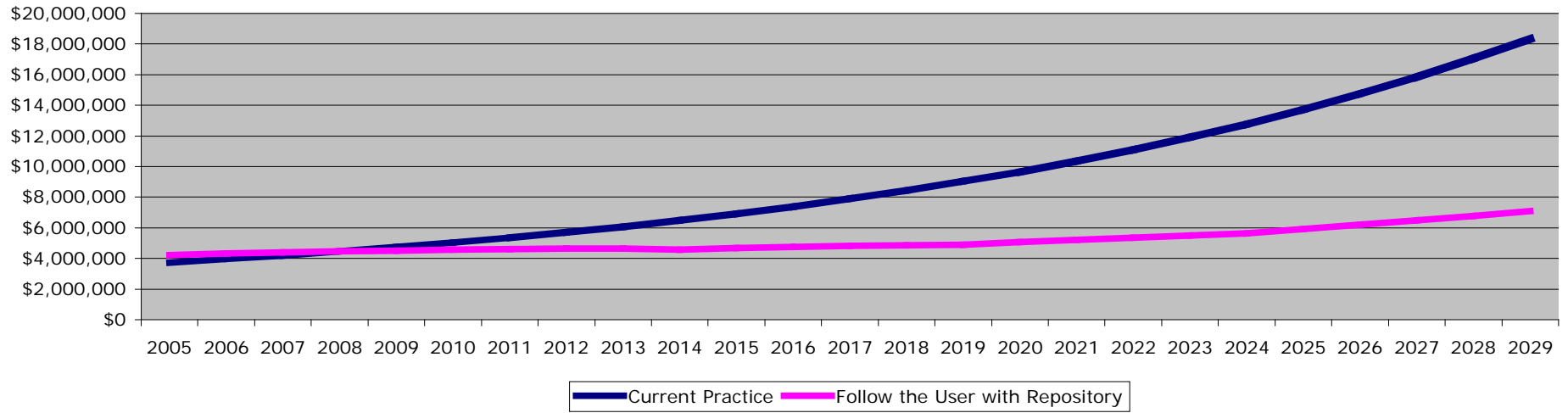
\$500,000 to start with 8% increase per year



# With Repository

	2005	2010	2015	2020	2025	2030
Purchased Materials with Proicessing Repository Program	\$3,725,000	\$3,841,562	\$3,596,271	\$3,469,056	\$3,585,025	\$4,015,883
	\$500,000	\$734,664	\$1,079,462	\$1,586,085	\$2,330,479	\$3,424,238
Total	\$4,225,000	\$4,576,226	\$4,675,733	\$5,055,141	\$5,915,503	\$7,440,120
Annual Rate of Increase	2.3%	1.4%	2.1%	3.1%	4.6%	4.7%

# Cost Comparison with Repository



# What this Means to Me

1. Assuming open access develops as it could, libraries can develop their collections in an appropriate way and at a reasonable cost
2. To do so requires developing a new way of thinking about the role of the library

# New Model

Libraries have two roles (these roles are not new):

1. To make purchased collections available to the members of the library's community
2. To make special or unique collections held/managed by the library available to the world

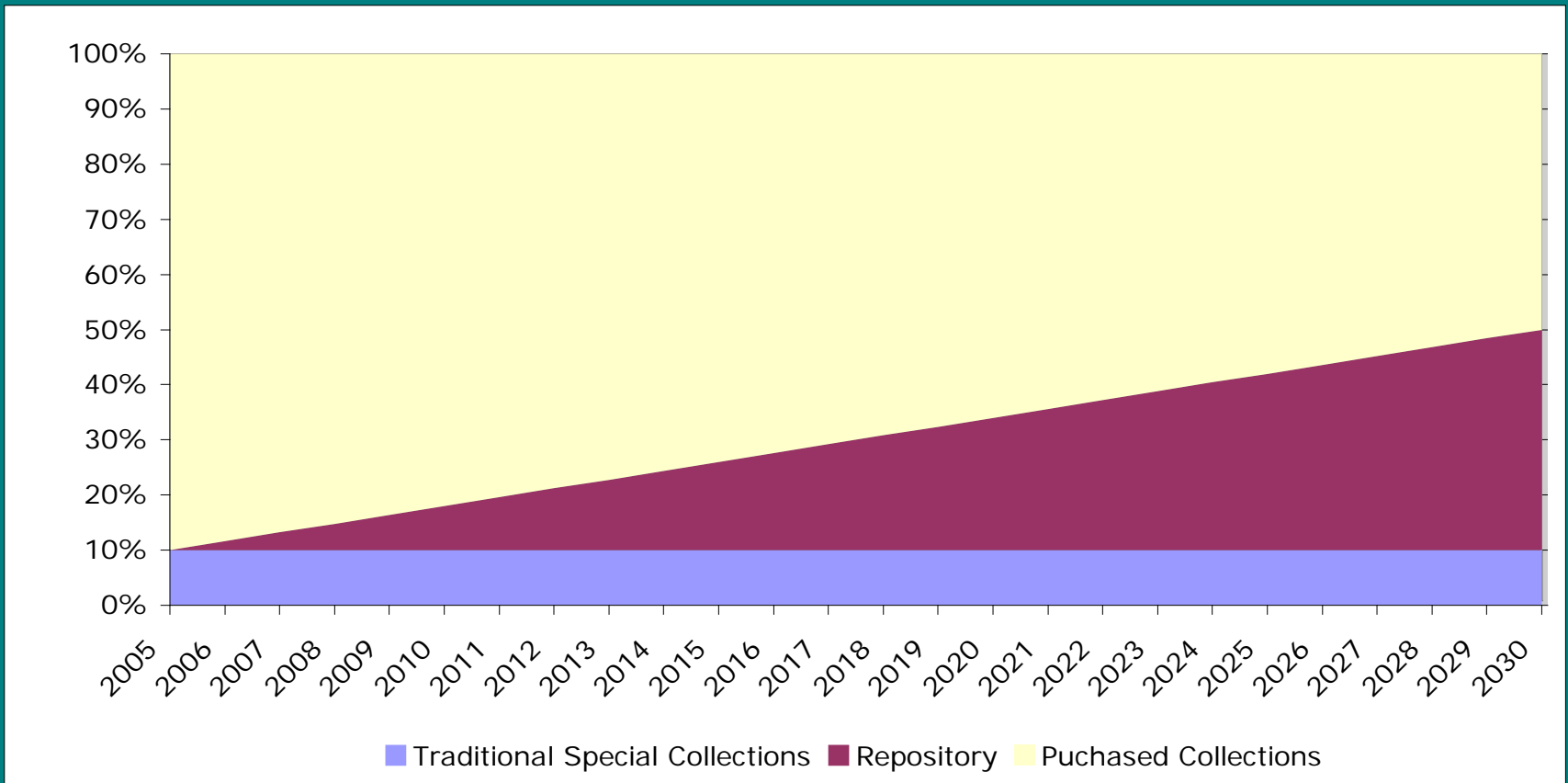


# New Model

In most libraries today, about 90% of the money and effort goes in to purchased collections role and 10% into special collections role

Over the next 25 years this should change to at least a 50/50 split.

# New Model



# New Model

- Libraries should claim responsibility for institutional repository
  - Put infrastructure in place
  - Some metadata is library responsibility
  - Developing repository collections is part of librarian's liaison work
  - Pay authors fees for open access journals
  - Fund LOCKSS, etc.

# New Model

- Repository/Open Access Strategy Cheaper
  - Technology is more efficient than either print or electronic systems that require access restrictions
  - Subsidy does not escape the scholarly communications system (no Elsevier shareholder profits)
  - No cost of sales

# New Model

- Internal political dynamic
  - Repository is university-wide service which needs to serve all segments of the campus and only the library can do it well
- “Free Rider” problem in information commons
  - Repository effort is self-serving because open access serves the institution and faculty by making their works easily available thus enhancing institutional and individual prestige
  - Circle of gifts

# New Model

- By selling the repository role and open access
- And by documenting actual use of resources
- You can then make the case for constraining expenditures on purchased resources

# Questions/Discussion

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