



RIN report on 'Activity, cost and funding flows in the scholarly communications system' and user model functionality

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Purpose of study

The overall objective of the study was to:

- Identify the cash- and non-cash costs incurred by the key agents in the scholarly communications process
- Identify the sources and volume of funding to meet those costs and the UK's contribution to the cost incurred

Other points to note:

- Consider the global view of the publication/distribution element and the UK element of access
- Not a cost benefit analysis



Develop a model that can be used by RIN and others to inform policy debate



Modelling of scholarly communications value chain



We took the scholarly communications process to be the combination of:

Publishing & distribution of peer-reviewed scholarly research articles in scholarly journals, and the provision of access to such journals by academic and non-academic libraries, and other channels.

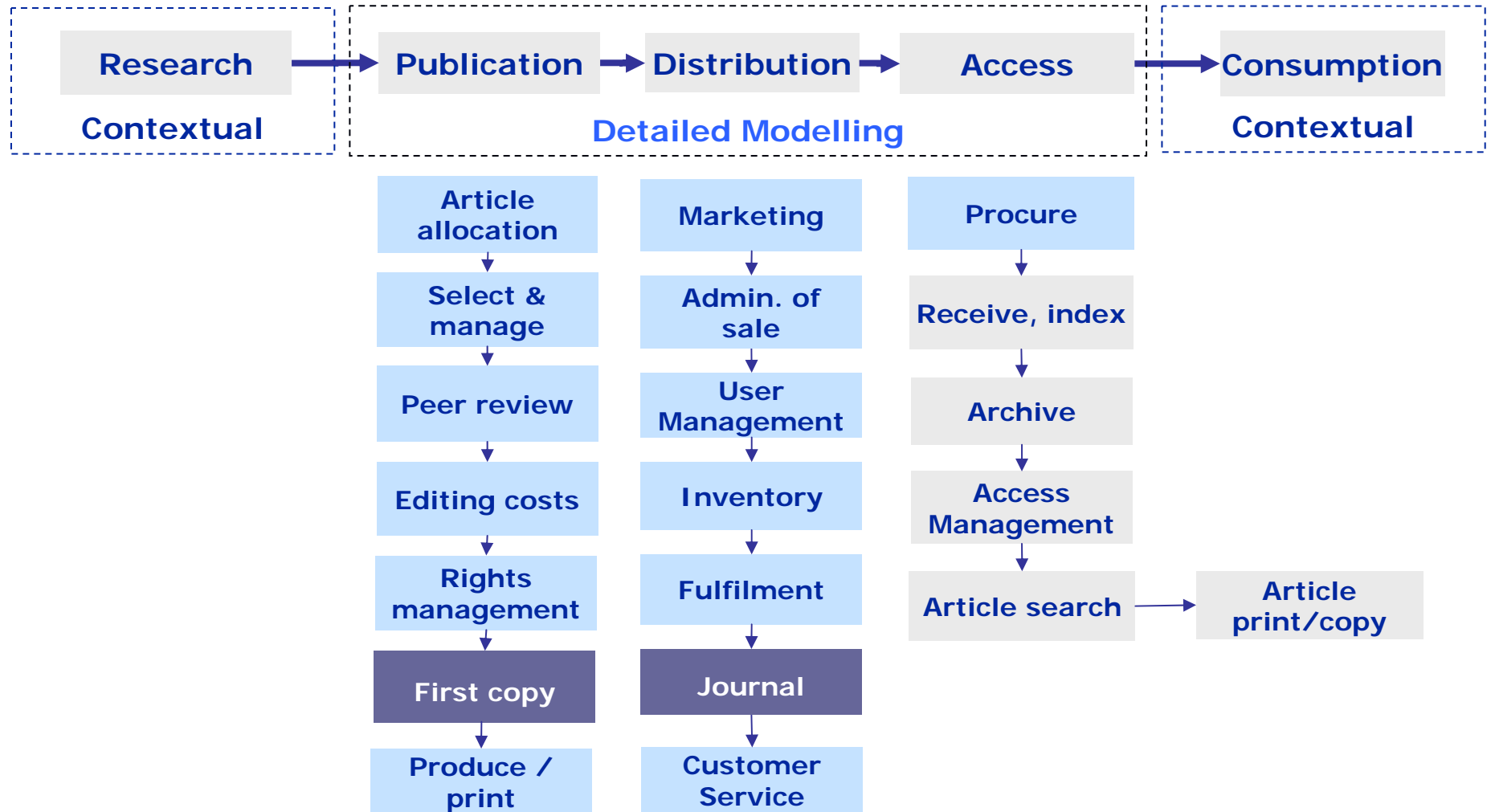


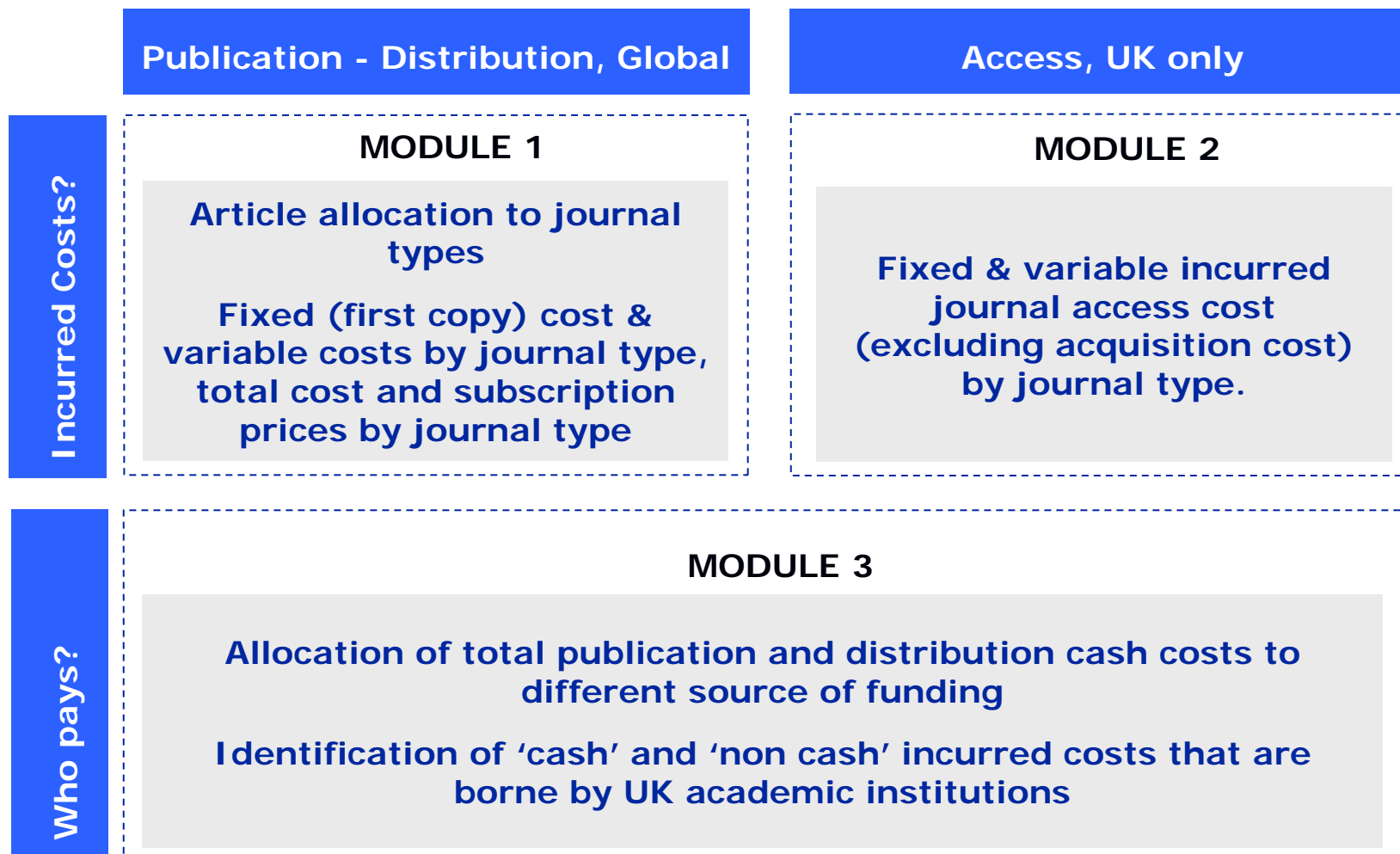
Other key definitions used in the study

- **Fixed costs:** Can be *per article* or *per journal*. Do not change with increases in circulation / subscriptions
- **Variable publishing & distribution cost.** Variable costs are a function of total circulation of the journal category
- **Direct costs:** Costs related directly to the publication and distribution of, and access to articles or journals
- **Indirect costs:** Costs that not attributable directly to the production of either an individual article or journal. (e.g. overheads)
- **Incurred costs:** total costs of publishing, distribution and access incurred by value chain participants
- **Subscription price:** price paid by UK libraries and others



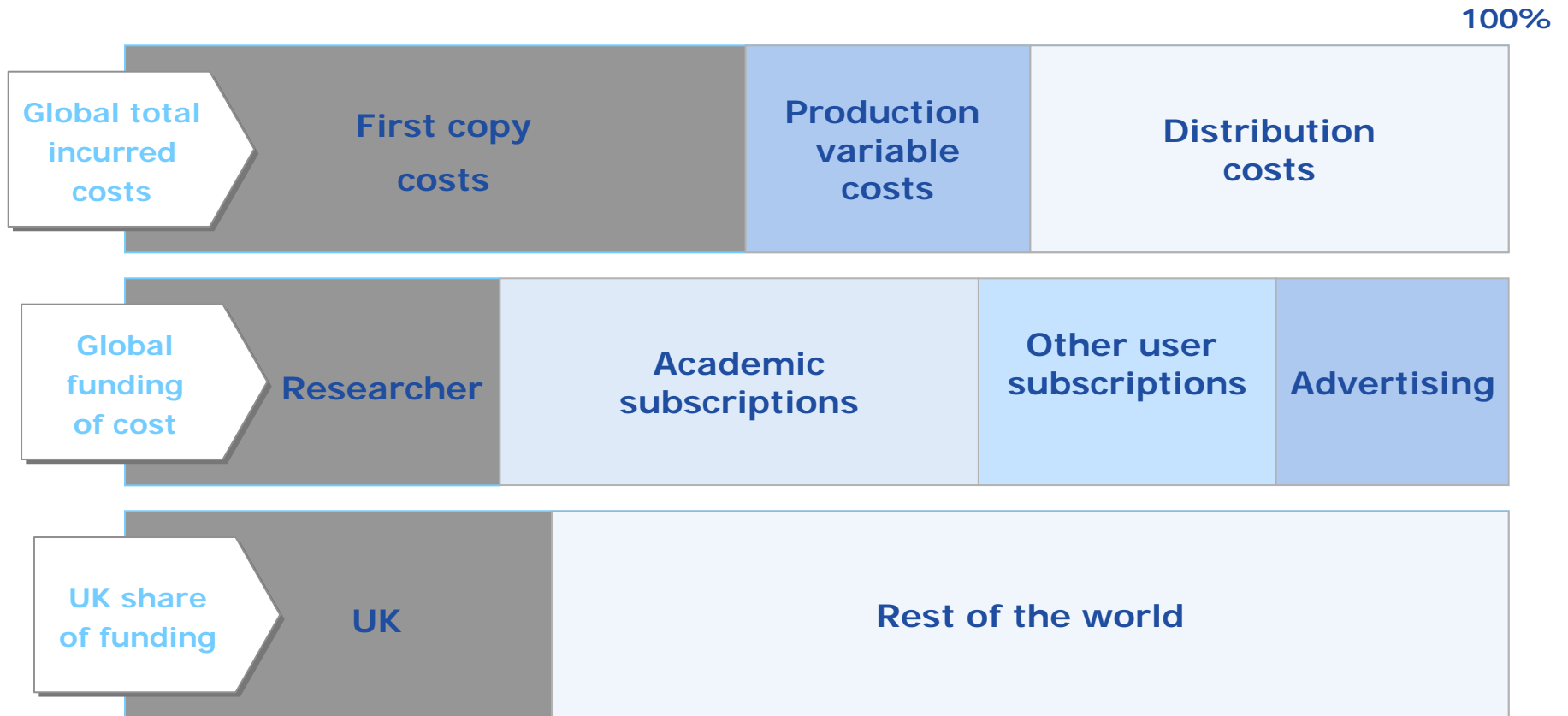
Activity based model







Modelling structure - Module 3 Outputs

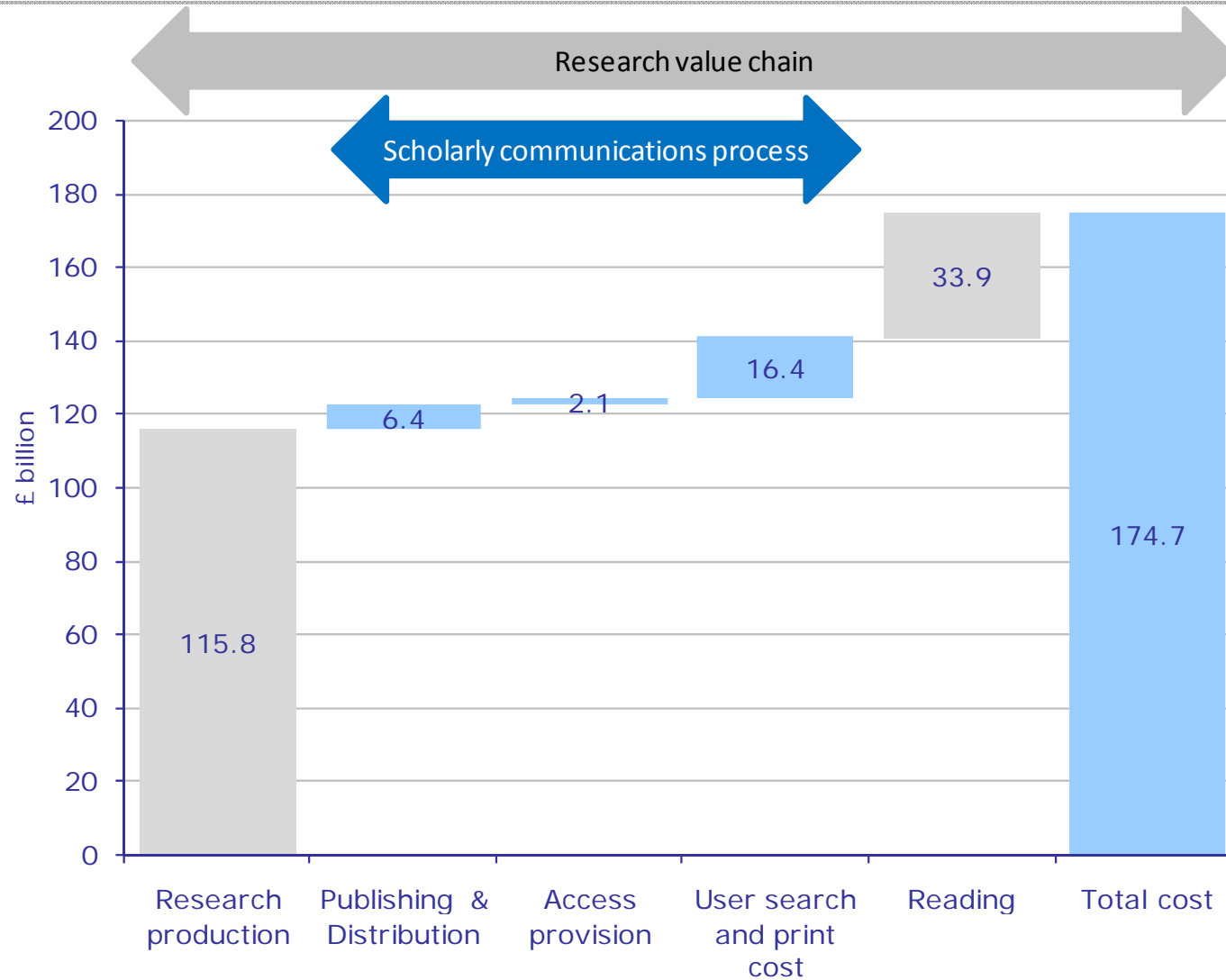


Base case results



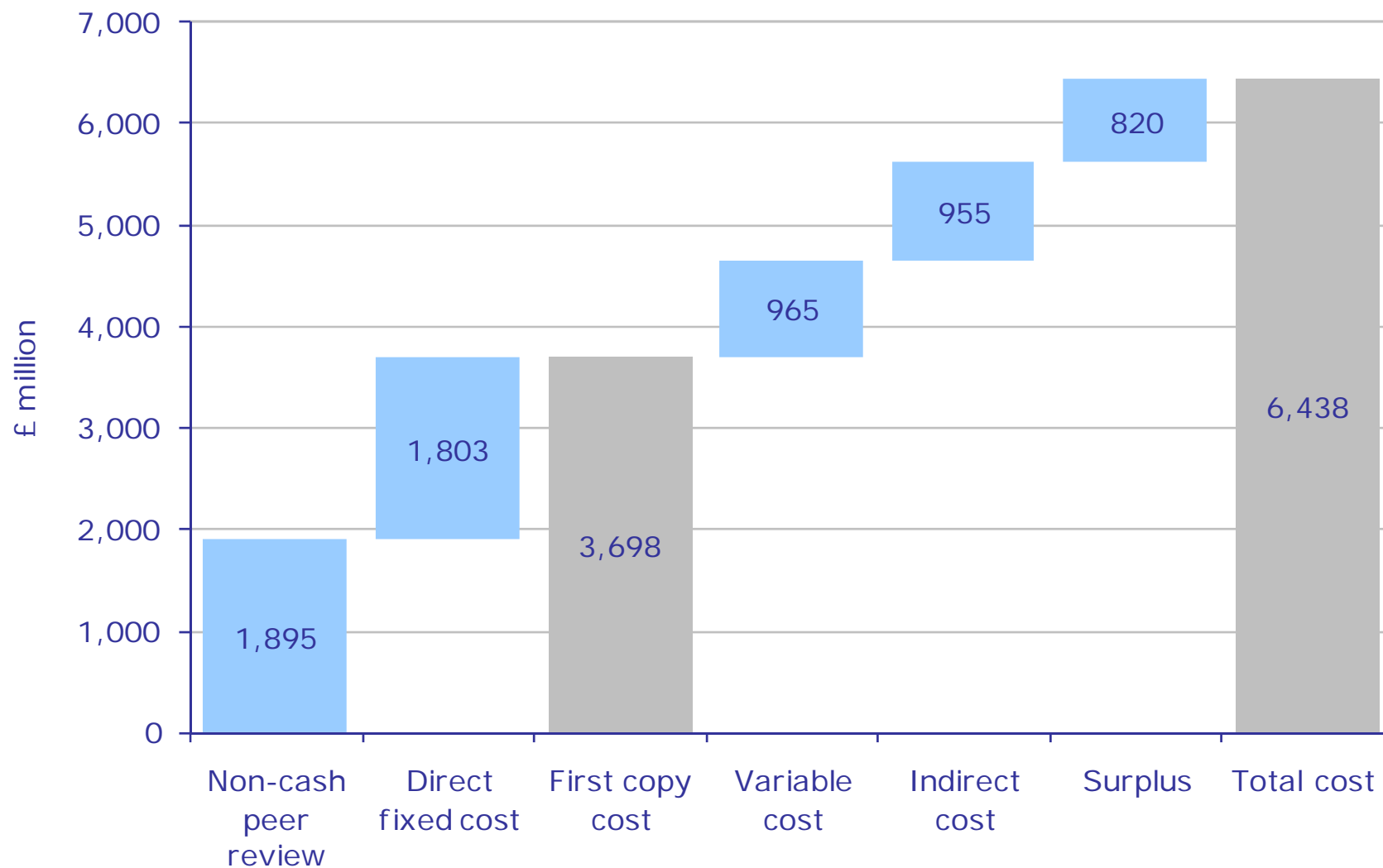


Global research production and communication process



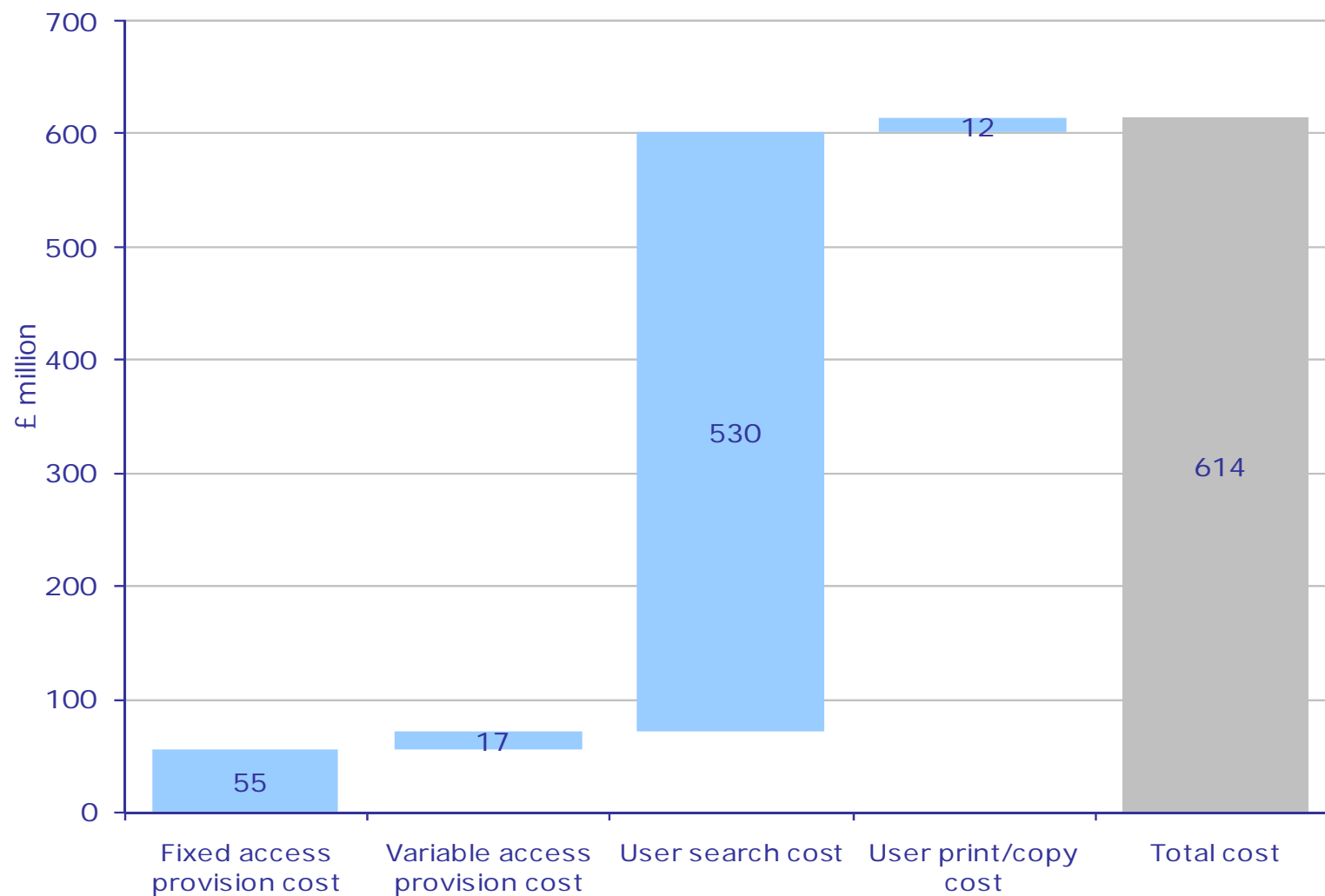


Summary of publication/distribution cost (global)



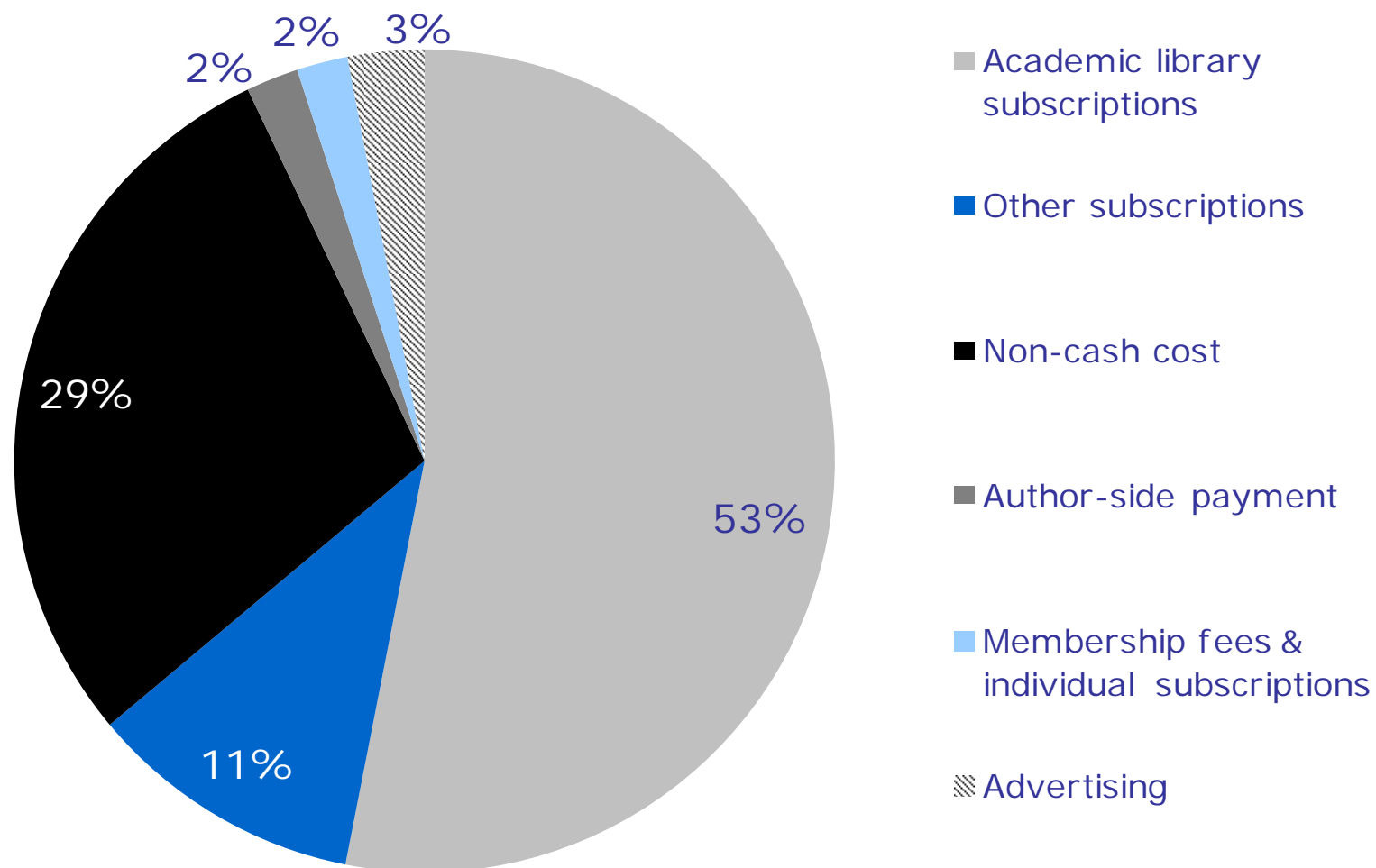


Summary of access provision cost (UK only)



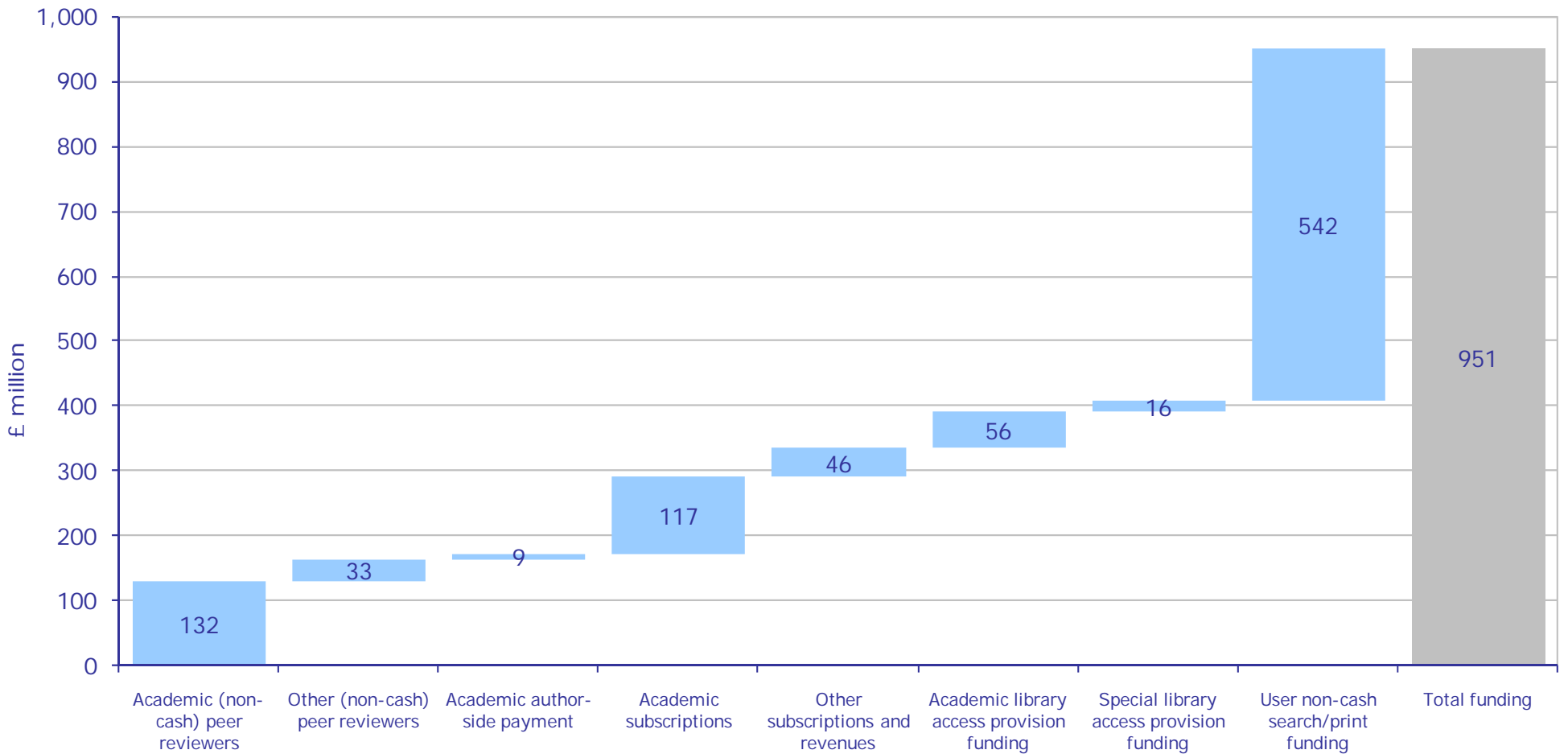


Funding of publication and distribution cost





UK funding contribution to global cost





The UK's contribution to publication and distribution cost

Measures used

The contribution of

- UK peer review (cost)
- UK academic libraries
- UK academic institutions
- UK as a whole

To meet the global peer review and publication & distribution cost was estimated. The measure were compared with the global supply of articles accounted for by UK authors and the UK's share of article reading.



Implications

- UK academics are significant contributors in terms of peer review cost compared with the proportion of articles originated in the UK
- The contribution of UK academic subscriptions and academic institutions as a whole are lower than the UK's contribution of global article production
- Overall our estimate suggests that the UK is a net beneficiary compared with the supply of scientific articles

Scenarios



Scenario 1: Electronic Only

- Reduction in variable costs associated with distribution (i.e. print, fulfillment); and reduced access costs. Net effect reduction in costs of around £1bn

Scenario 2: Author side payment (builds on 1)

- Additional savings in variable distribution costs (-£385m). First copy costs increase as a result of increased admin costs associated with working with author / payments.
- Big changes in who funds: Academic subscriptions (-£2,913m), Author side payments (+3,246m), other subscriptions (-£592m).

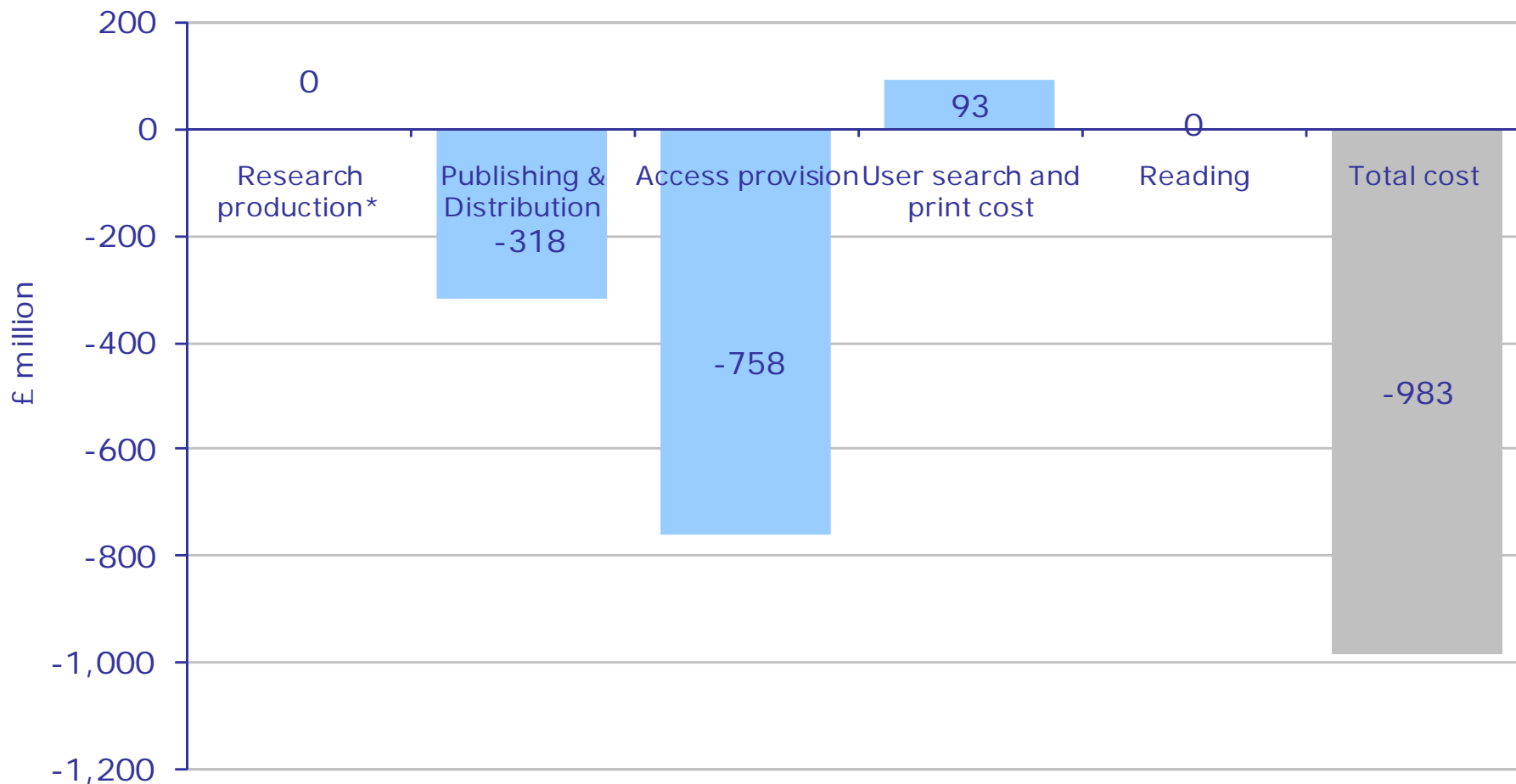
Scenario 4: Increased funding

- Real 2.5% per annum funding increase for 10 years. Results in 28% more articles and 11% more journals. Subscription price up by 12% in real terms



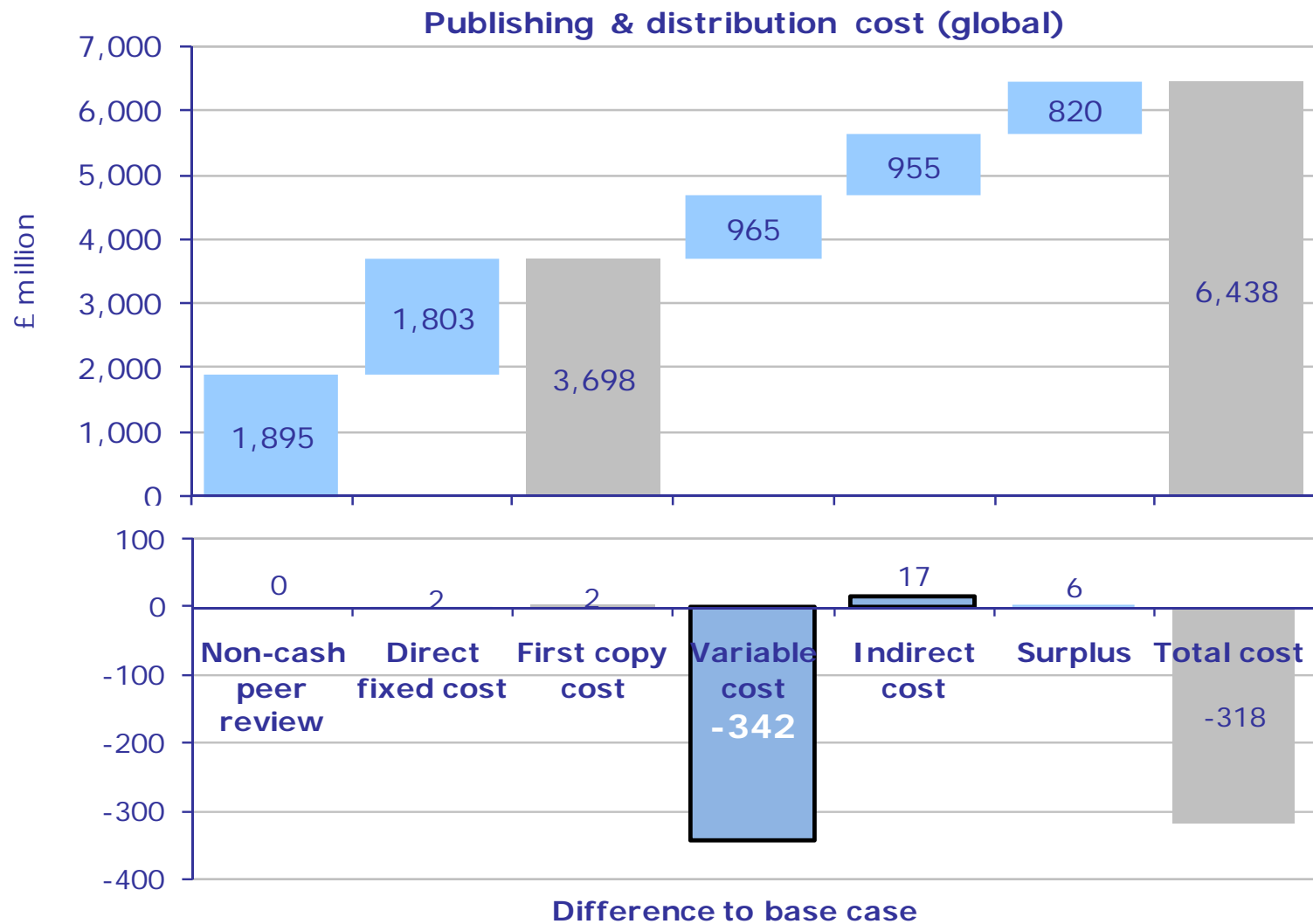
Scenario 1 - Move towards electronic-only publication (90%)

system-wide cost, difference to base case



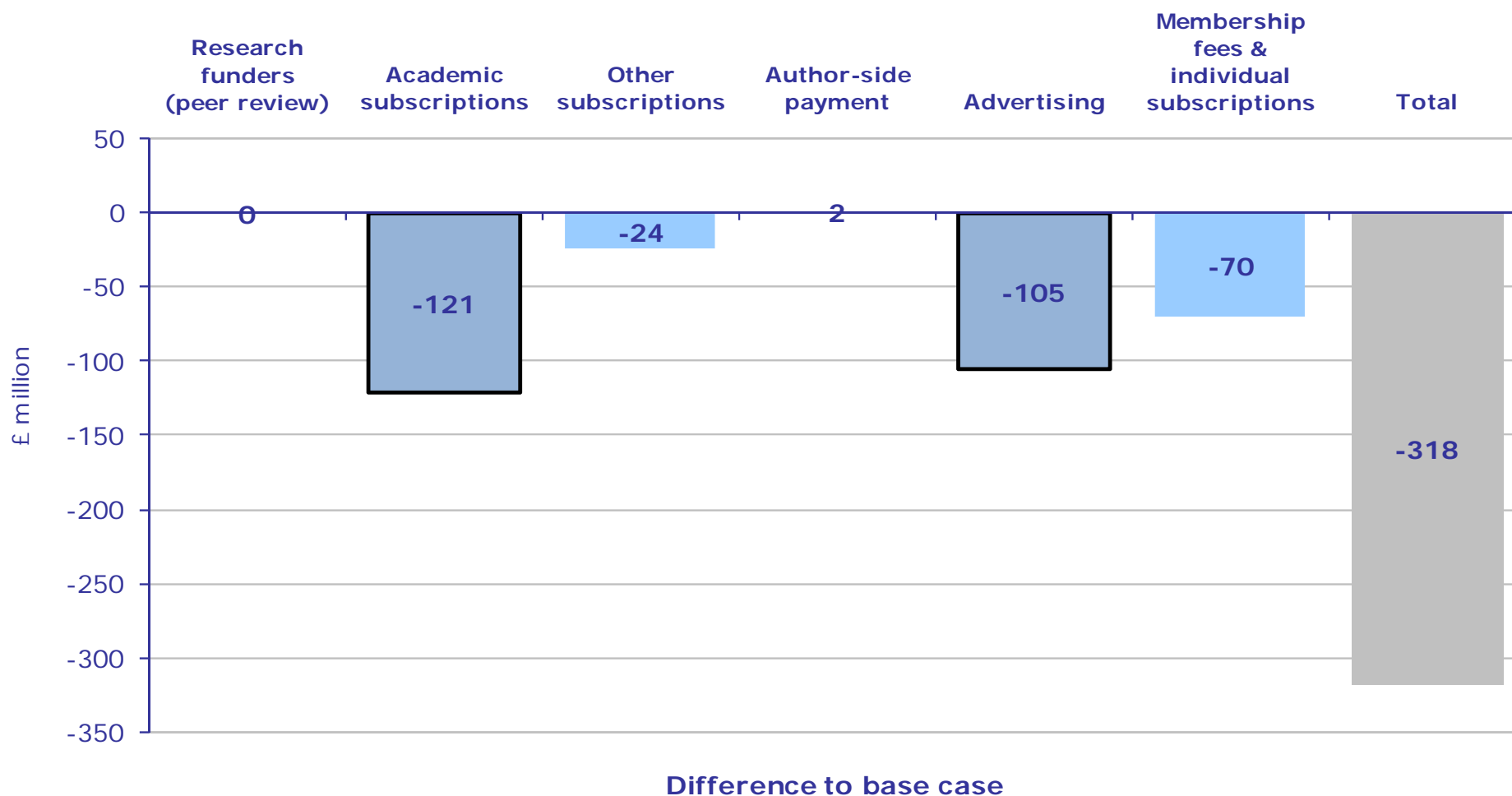


Scenario 1 - Move towards electronic-only publication (90%)





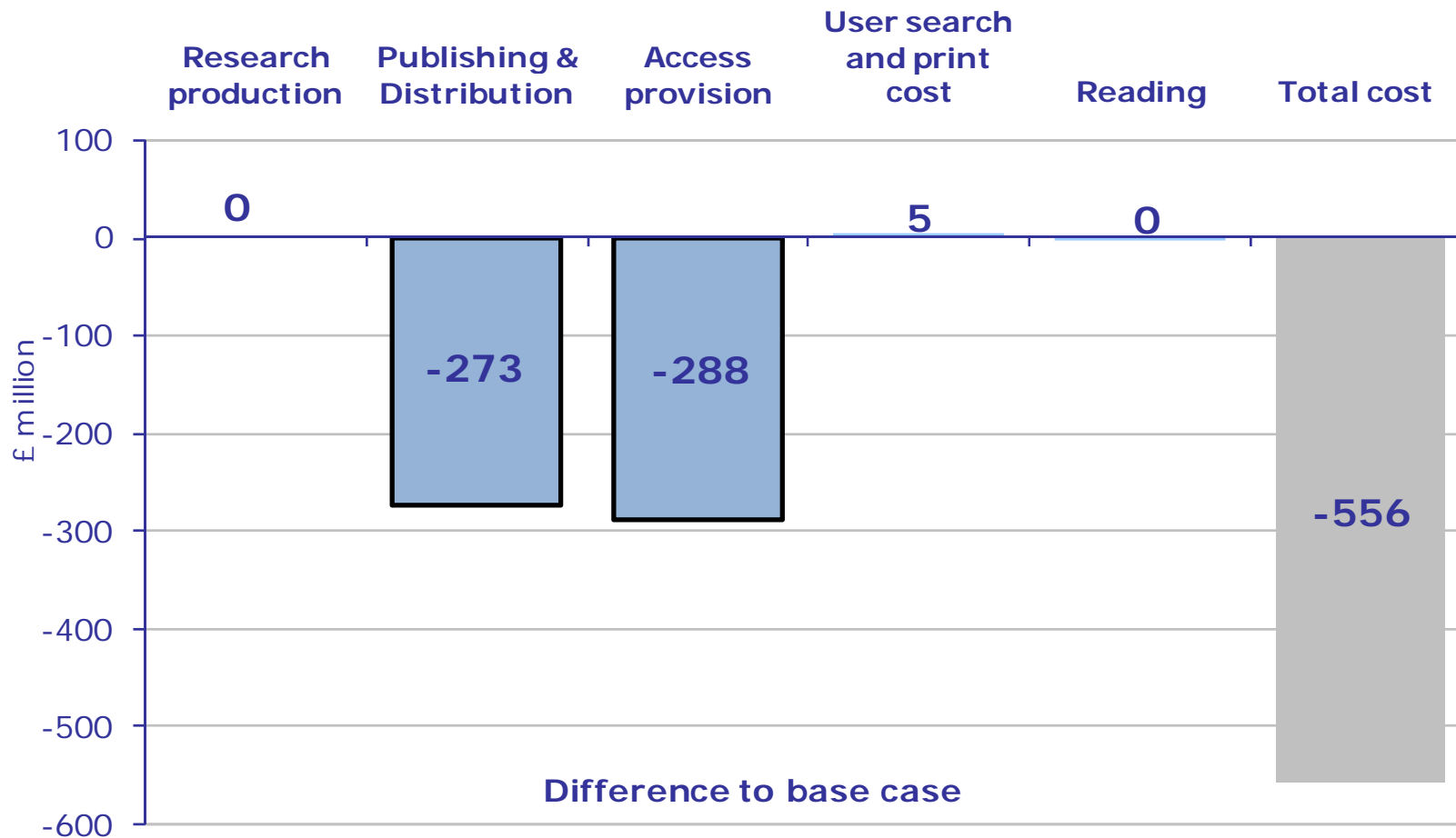
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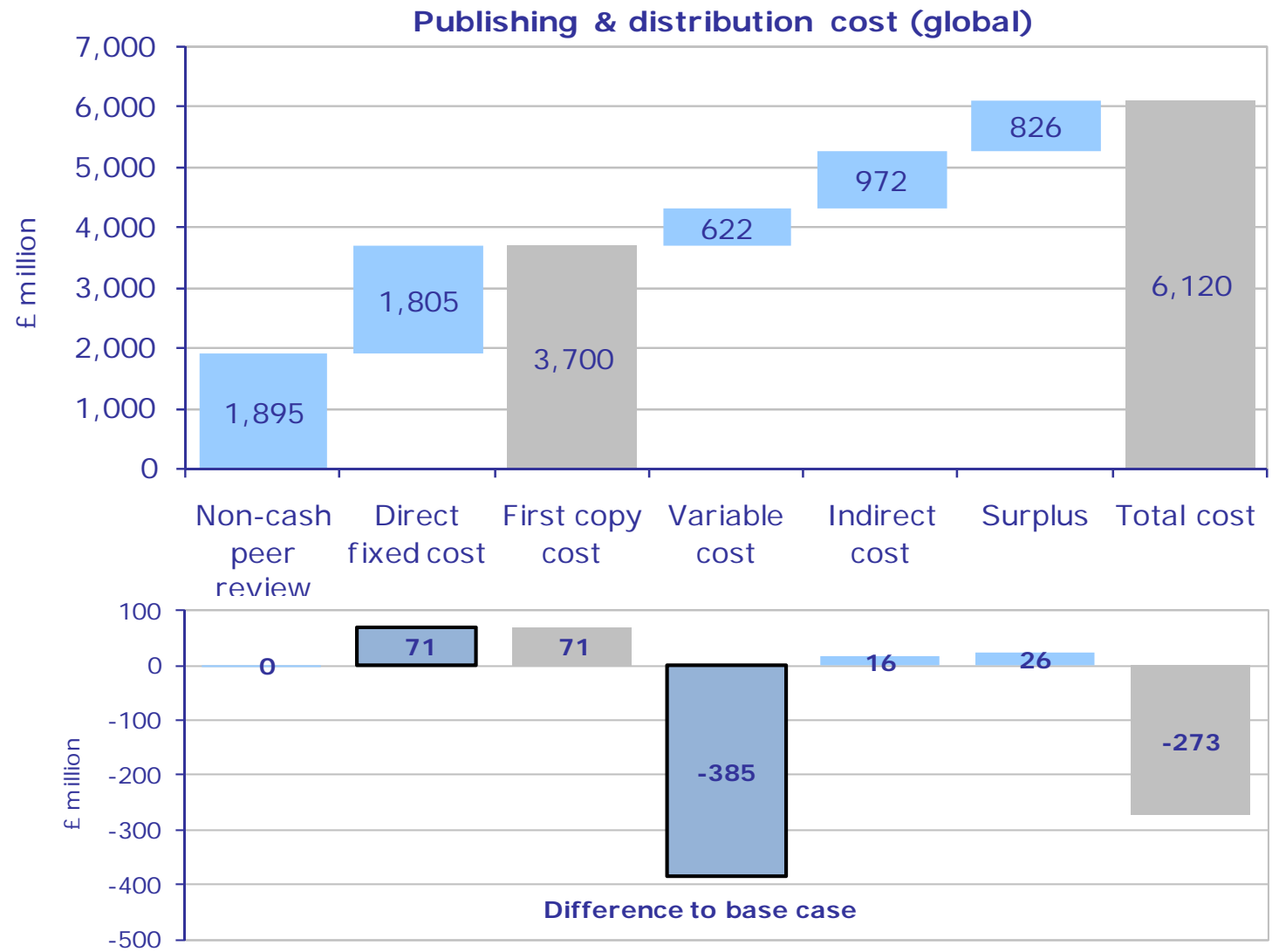
Scenario 2 - Author-side payment business model

Additional differences in global research system-wide incurred cost





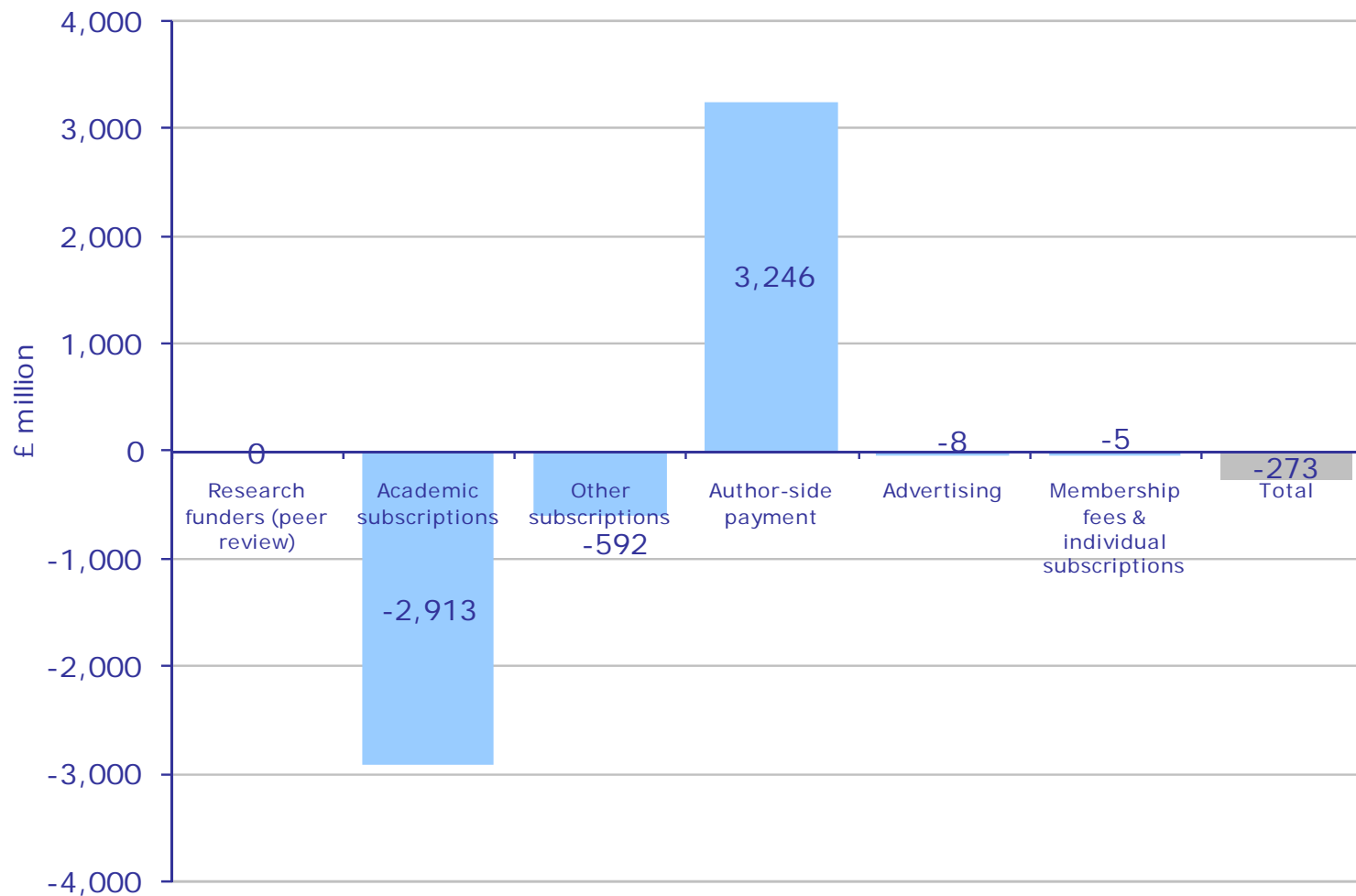
Scenario 2 - Author-side payment business model





Scenario 2 - Author-side payment business model

Additional differences in global publication & distribution funding





Scenario 4 – Increase in research funding

Input assumptions

Parameter	Base case	Scenario 4
R&D funding global	£439bn	£562bn
R&D funding	£17.9bn	£22.8bn
Average number of articles per journal per year	114	132

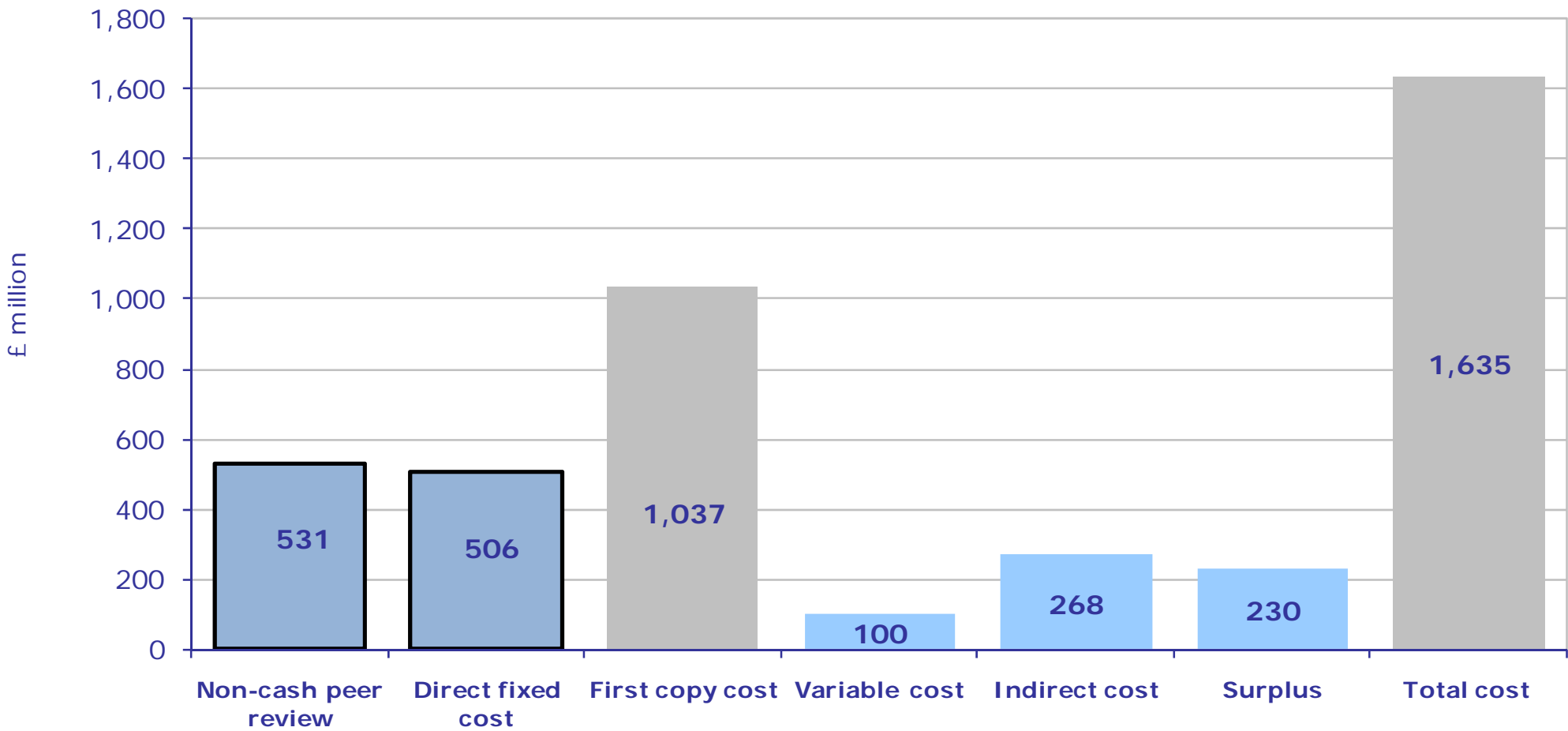
Impact of increased research funding on the number of globally published articles and journals

Item	Base case	Scenario 4
Number of articles published	1.58m	2.03m (+28%)
Number of journals published	23,700	26,300 (+11%)



Scenario 4 – Increase in research funding

Difference to base case





Scenario 4 – Increase in research funding

Difference to base case

