TIB | German National Library of Science and Technology

How Much is a Specialised Library Worth?

The cost-benefit factor: A suitable tool for justifying public investment into libraries?

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LIBER
2011

TIB in Hannover – Some Facts

= **German National Library of Science and Technology**

- Engineering, architecture, chemistry, information technology, mathematics and physics
- Financed by Federal Government and all Federal States
- 7 million items, 18,500 journal subscriptions, € 8 million acquisition budget

= Worldwide largest specialised library for science and technology

TIB – Facts & Figures

- Member of the Leibniz Association, financed by the Federal government (30%) and all Federal States (70%)

- Budget 24.5 Million euros
  - € 19.5 million - Acquisitions
  - € 2.1 million - Revenue
  - € 2.9 million - Third-party funding

Main Building

Marstall Building

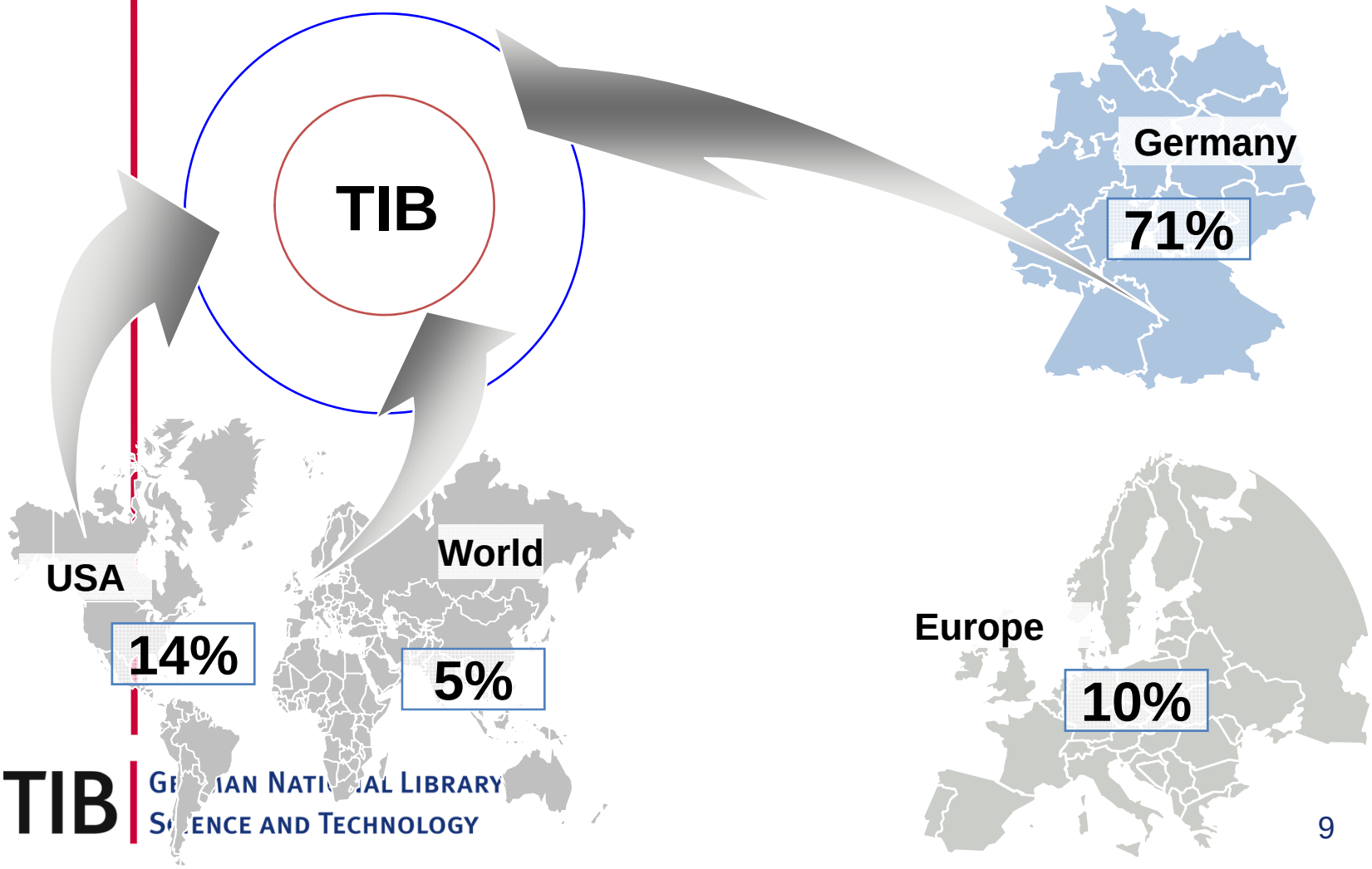
Main Stacks

Global Network

Services

- Full Text Service
  - print
  - digital (National Licences, PPV)
- GetInfo – Specialised portal for technology and science
  - 30 million data sets in the index
  - 135 million data sets in access
- Citing of research data
- Applied research and development
  - Visual search, visualisation

Customers



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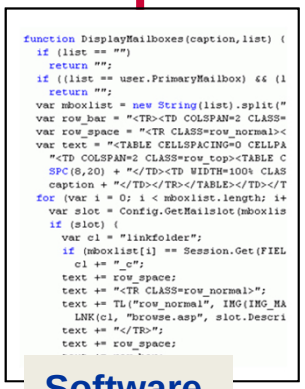
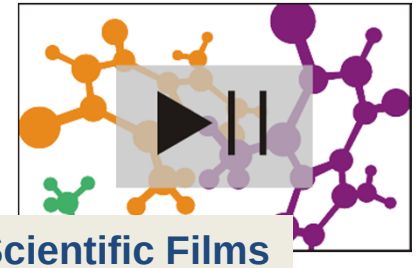
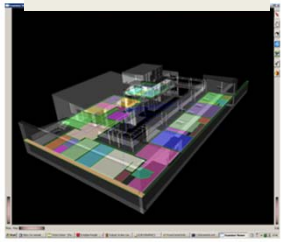
Strategy



Software

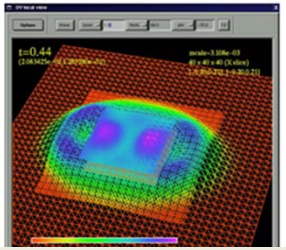


Scientific Films

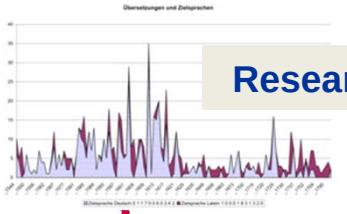


3D Objects

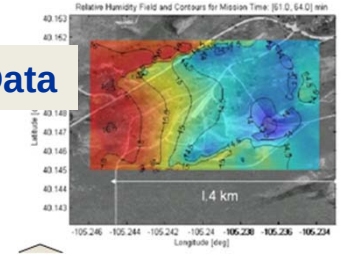
TIB



Simulation



Research Data



Text

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Why the Questions?

- Key data for political debate and discussions

- The Leibniz Association institutes' evaluation process:
  - Requirements for joint funding by Federal and State governments
  - Evaluations every 7 years by external experts
  - Quality assurance
    - Review of the strategy
    - Strengths, weaknesses, potential

Quotation…

"The public have a right to know that they are getting value for money and therefore there are tough choices and hard decisions that have to be made... ***the something-for-nothing days are over in our public services and there can be no blank cheques."***

Rt Hon Gordon Brown MP, Chancellor of the Exchequer

Pre-budget Briefing for Cabinet, 20 March 2002

→ ***But: How do you valuate non-tradeable goods?***

Solution: Contingent Valuation Method (CVM)

- **Contingent Valuation Method** (CVM) is a Stated Preference Method for the economic evaluation of non-tradeable goods.

  - Stated Preference Methods are direct evaluation methods which use **surveys**. In the simplest case, the participants are presented with the scenario of a potential change of (environmental) goods or services and asked:

    “What is the maximum you would be prepared to pay in order for the presented change to take place?”

Contingent Valuation Method

Source: http://de.wikipedia.org/w/index.php?oldid=75220033 *Bearbeiter*: Aloiswuest, Andreas aus Hamburg in Berlin, Andromedus, Arno Matthias, Dellex, Heinte, Jan eissfeldt, Karsten11, Proghead, Revvar, Trinitrix, 2 anonyme Bearbeitungen (2 anonymous editings)

Solution: Contingent Valuation Method II

- Contingent evaluation arose from the need to position useful **but non-marketable resources** in relation to tradeable goods in order to measure their value quantatively (e.g. in monetary units).

- The results of this analysis form part of the policy and also act as a basis to ascertain the level of expenditure or the cost of protective measures. In addition, it becomes possible to estimate the costs and/or damage which would arise from economic use of the environment or other non-tradeable goods.

Contingent Valuation Method

Source: http://de.wikipedia.org/w/index.php?oldid=75220033 *Bearbeiter*: Aloiswuest, Andreas aus Hamburg in Berlin, Andromedus, Arno Matthias, Dellex, Heinte, Jan eissfeldt, Karsten11, Proghead, Revvar, Trinitrix, 2 anonyme Bearbeitungen (2 anonymous editings)

CVM - Development

- Development of CVM in the USA at the end of the 1940s

- Validation and revision of the technique by the Nobel Prize winners, Robert Solow and Kenneth Arrow (Nobel Prize in Economic Sciences, 1993)

➔ General recognition of the method

- Report of the NOAA Panel on Contingent Valuation, Arrow, Solow, Portney, Leamer, Radner and Schuman, Federal Registry, 58. Washington DC, 1993

→ the Exxon Valdez Disaster (1989)

CVM - Development II

- Today: Numerous applications
  - in tourism, in the provision of health care and in the cultural field (museums, libraries)
- World Bank and the OECD
- Evidence can be found in over a thousand studies in scientific literature

CVM - Strengths and Weaknesses I

Advantages and Strengths

- Collection of utilisation and non-utilisation values
- Flexible as it has almost limitless application potential in any other problem area
- Firmly established in welfare economics
- Ex-ante assessments are possible
- Outstanding knowledge of the method’s weaknesses and strengths

CVM - Strengths and Weaknesses II

Disadvantages and Weaknesses

In principle, all the problems of survey-based research:

- Instrumental effects
- Misinterpretation
- Multitude of potential distortions (bias)

“Contingent Valuation” – Examples

Document Information:

Title:	Are public libraries worth their price?: A contingent valuation study of Norwegian public libraries
Author(s):	Svanhild Aabø, (Faculty of Journalism, Library and Information Science, Oslo University College, Oslo, Norway)
Citation:	Svanhild Aabø, (2005) "Are public libraries worth their price?: A contingent valuation study of Norwegian public libraries", New Library World, Vol. 106 Iss: 11/12, pp.487 - 495
Keywords:	Cost benefit analysis, Norway, Public libraries
Article type:	Research paper
DOI:	10.1108/03074800510634973 (Permanent URL)
Publisher:	Emerald Group Publishing Limited

Article details

Article title	A Contingent Valuation of the 2012 London Olympic Games: A Regional Perspective		
Author	Walton, H. Longo, A. Dawson, P.		
Journal title	JOURNAL OF SPORTS ECONOMICS		
Bibliographic details	2008, VOL 9; NUMB 3, pages 304-317		
Publisher	SAGE PUBLICATIONS	**Country of publication**	Great Britain
ISBN		**ISSN**	1527-0025
Language	English		

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The project: Assessing the value of the TIB

Methodology

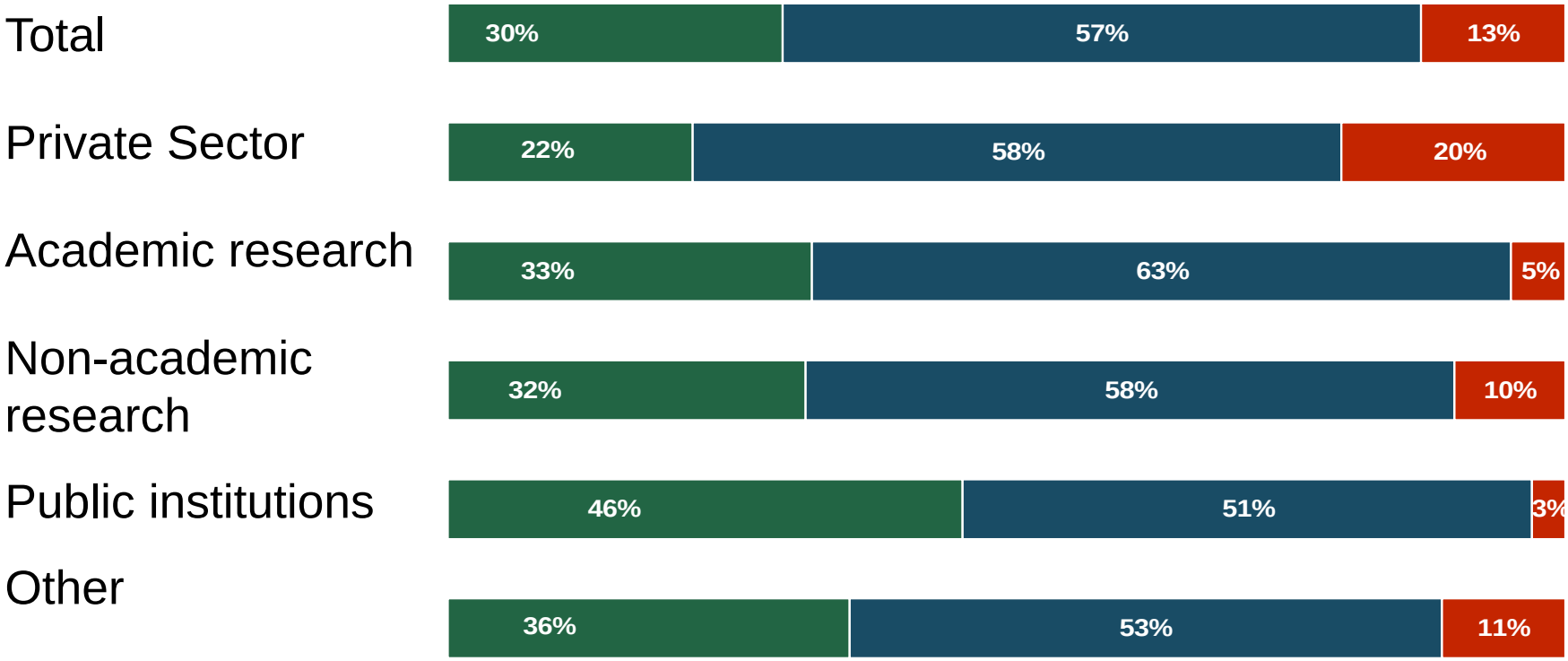
- Universe — 2,468 TIB customers
- Sample — 663 completed questionnaires, return 27%
- Methodology — Online survey
  Average interview duration: 13 minutes
- Selection procedure — Random sample
- Time period — 11th November – 4th December 2009
- Questionnaire — Scope: 45 questions
  Part 1: Identification of key customers
  Part 2: Usage of TIB services
  Part 3: Assessment of the value of the TIB
  Part 4: Starting points for its future strategy

Contingent Valuation
Questions to quantify the value of the TIB

Types of question	Inclusion in the TIB questionnaire
Investment in access	How restricted would you be in your work if the TIB was to no longer exist? What additional time would you then have to invest?
Cost of alternatives	What additional costs (not including personnel costs) would you incur each year if you could not use the TIB and were reliant on alternatives?
Price elasticity of demand	How would your usage of the TIB change if the price was to rise by 50%?
Willingness to pay (WTP)	If public money was no longer available to finance the TIB, how much would you be prepared to pay to ensure the survival of the TIB?
Willingness to accept (WTA)	Assuming that public money was no longer available, what would the German government have to pay you in compensation for the TIB? What additional costs would you incur?

What would happen if the TIB were to no longer exist?

57% would be “somewhat affected” in their work, 30% would be “seriously affected”, 13% “not affected at all”



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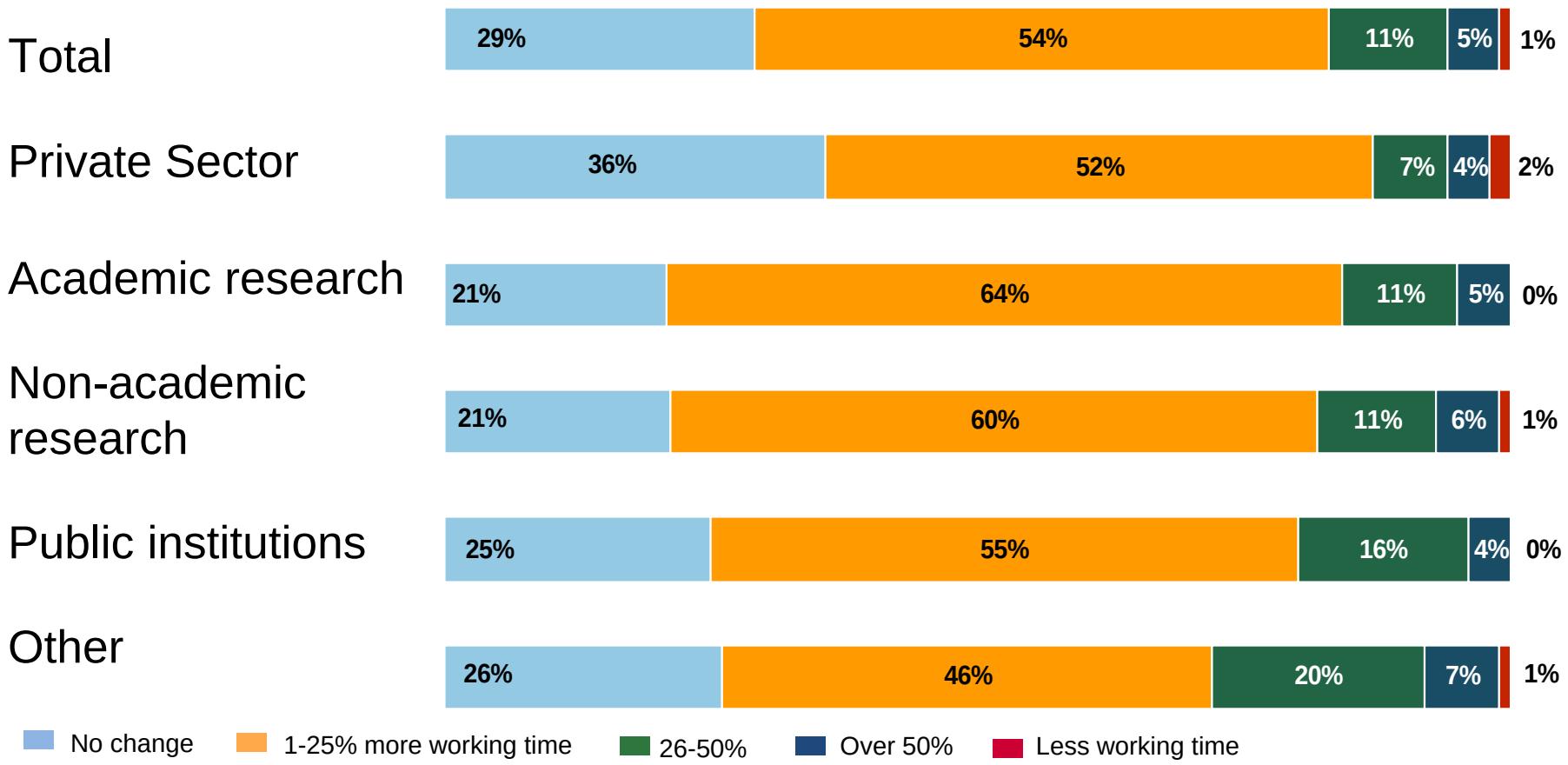
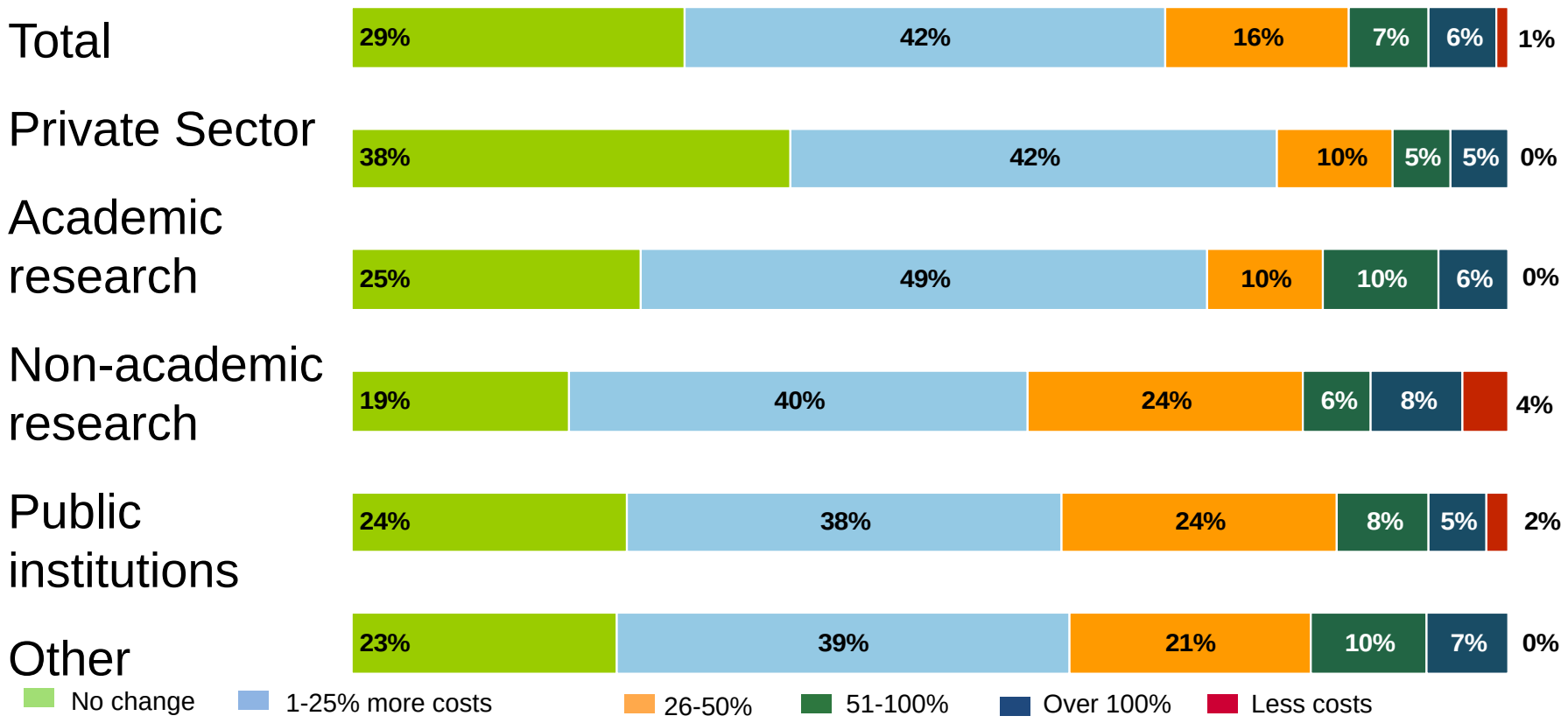
What would be the extent of the “Costs of Alternatives” in this case?

Without the TIB, 54% would have to use 25% more working time; in research this could even be 64% greater



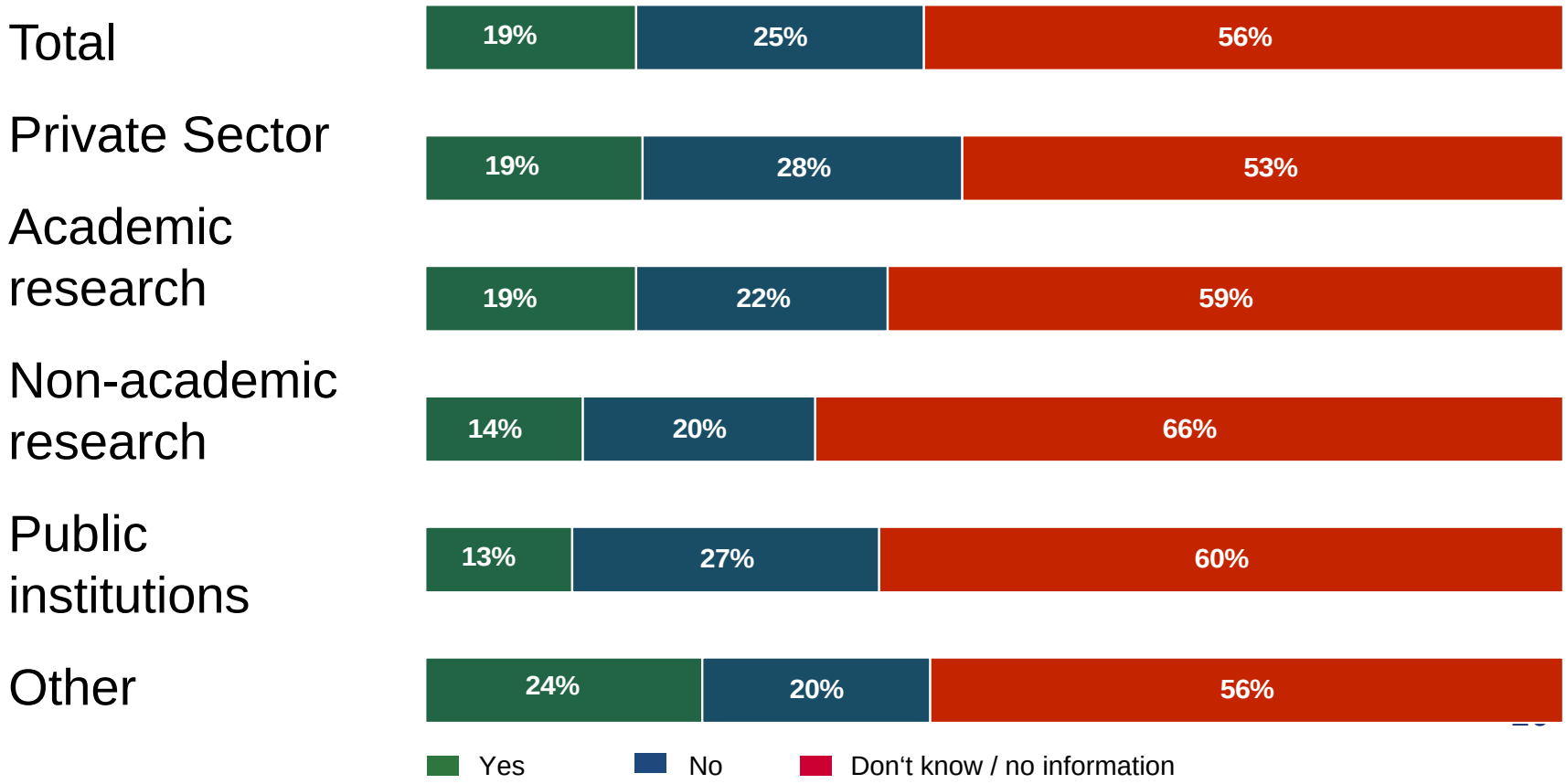
What would happen if the TIB were to no longer exist?

If the TIB were to no longer exist, 42% of the participants would incur increased costs of up to 25%; one third do not expect higher costs



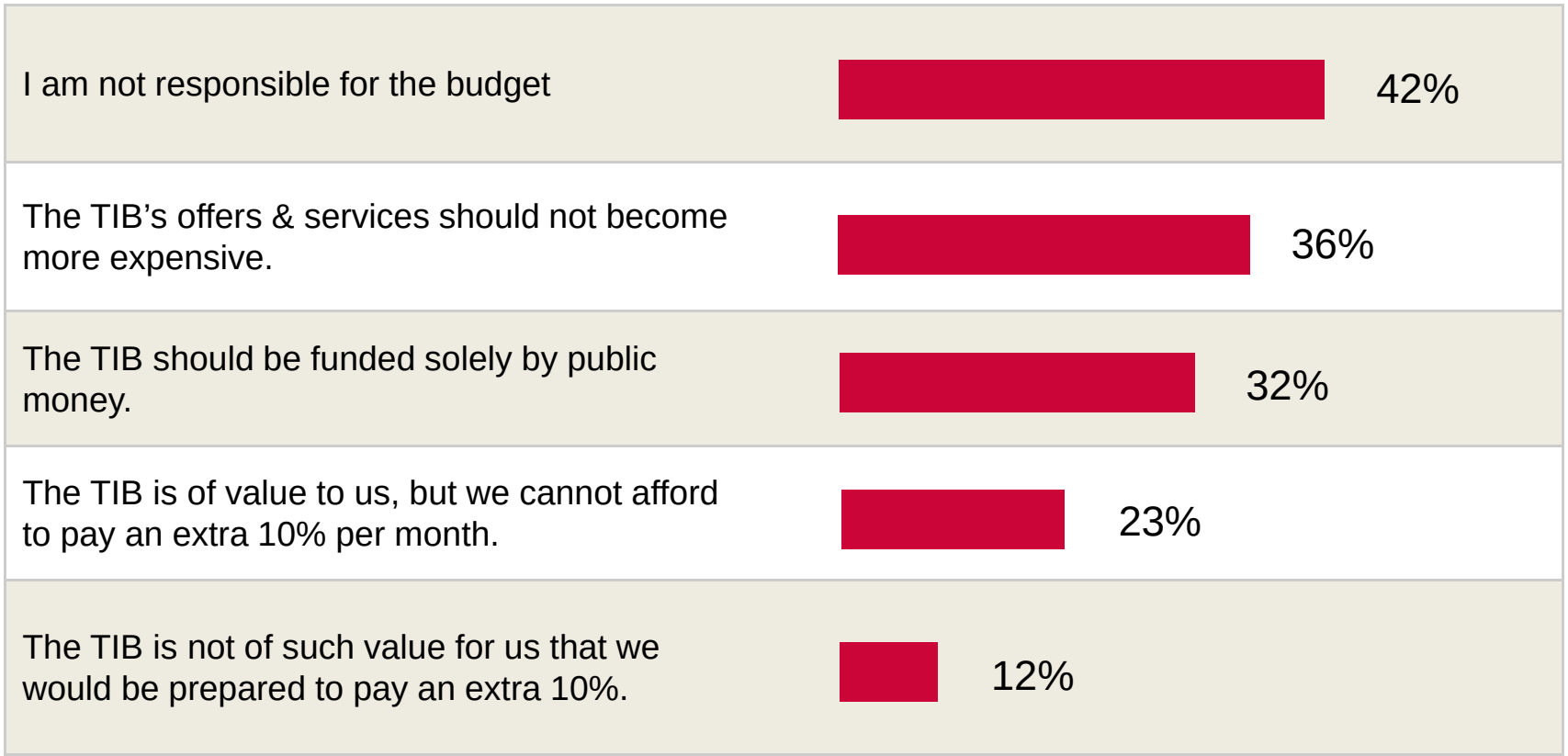
A potential personal contribution towards the survival of the TIB

Regular financing of the TIB by a standalone institution could be envisaged by only 19% of the respondents



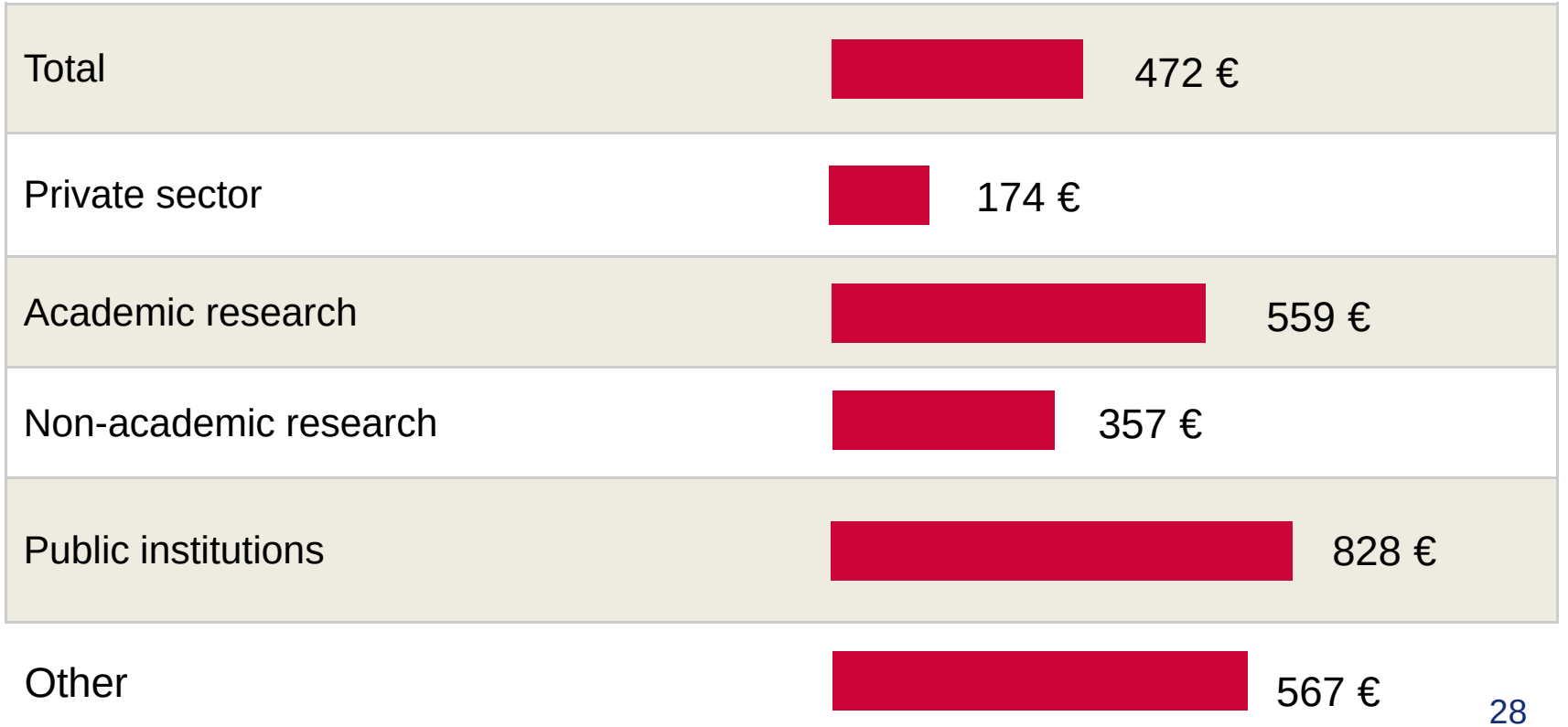
Question as to why a potential personal contribution was not answered

The majority of the participants are not responsible for the budget and are therefore not able to answer the question about their organisation's willingness to pay



Monthly compensation – Willingness to Accept (WTA)

The participants would demand an average of 427 euros per month as compensation for the disbanding of the TIB



Calculation of the economic value

- The “Willingness to Pay” was cross-validated using two different techniques.
- Calculation method 1:
  - The values were calculated directly from five types of questions:
    - Investment in Access
    - Cost of Alternatives
    - Price Elasticity of Demand
    - Willingness to Accept
    - Willingness to Pay
- Calculation method 2:
  - Regression models were used to check that plausible results had been achieved with the first calculation method.
  - Both methods yielded similar results.

It is therefore possible to confirm that the results best reflect the valuation of the TIB.

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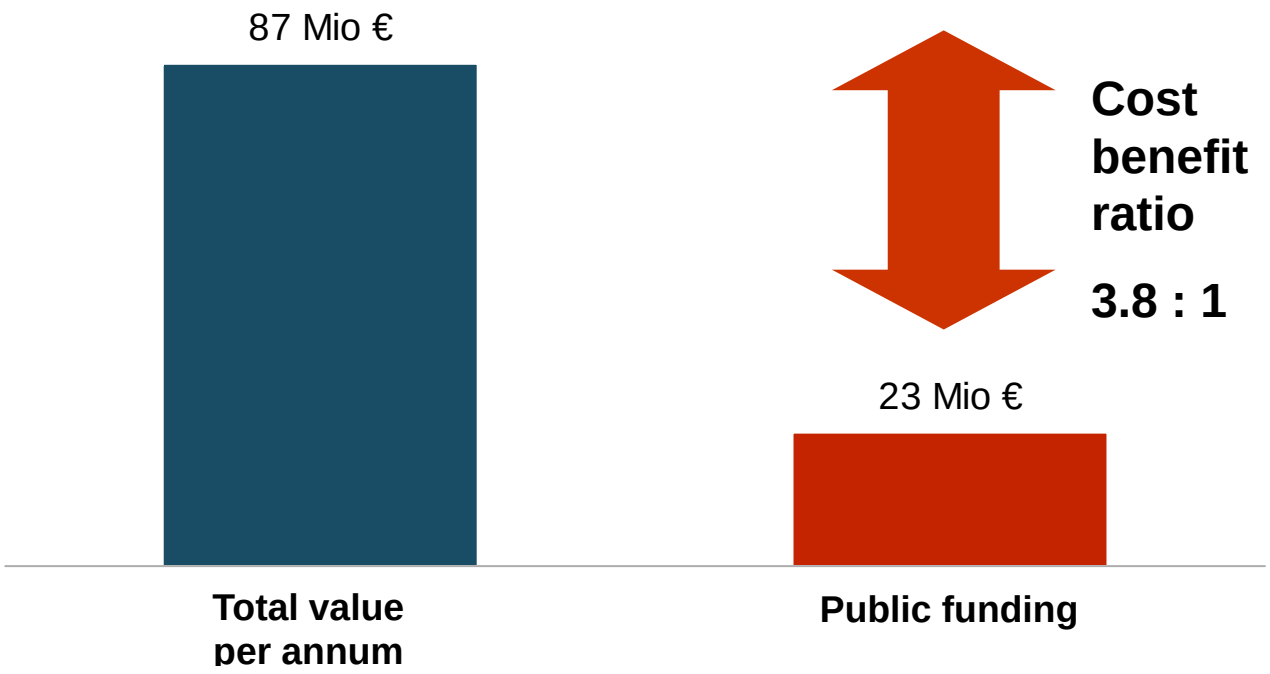
The economic value of the TIB

TIB customers confirm that the TIB is worth 3.8 times more value to them than the costs that it generates



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The economic value of the TIB

The library generates € 3.80 for the German economy from every single euro of public funding invested in the TIB.

If public funding of the TIB were to stop, Germany's scientific activity would accrue losses of at least € 64 million.

Conclusion

- The funding body's demand for evidence of use is a legitimate one
- "Violation of cultural property" ???
- This method cannot be applied to every library (costs!)
- Procedure for libraries with a national service mandate
- Usability in political debates and discussions

Closing words...