

EUA **BIG DEALS**SURVEY REPORT

The First Mapping of Major Scientific Publishing Contracts in Europe

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Preface

Relations between the academic world and scientific publishers have evolved profoundly over the last 20 years, due to the concentration of the major scientific publishers and the digital revolution. The hardening of negotiations between higher education institutions, research organisations and publishers is revelatory. Publishers now offer a variety of contracts, often based on Big Deals - the provision of large portfolios of journals designed to meet the needs of extensive numbers of researchers. Meanwhile, universities and research organisations have formed consortia to reduce costs through the large number of beneficiaries. In a context of increased higher education and research funding needs and increasingly limited budgets, the steady increase in the cost



of scientific literature has resulted in substantial profit margins (up to 30%) for major publishers. This situation is becoming unsustainable for libraries and academic institutions.

The rise of open access to scientific publications and open science breaks new ground, but the transition to full open access is still slow and its impact on university budgets still minor as shown in the annual <u>EUA Open Access Survey</u>. Changes to the publication model (paying for open access publication instead of paying to read an article) are not enough to guarantee an economy of means if the owners of major scientific journals continue to pursue high profit margins and if there are no alternative, competitive publishing platforms.

EUA has established a High-Level Group of institution leaders and scientific publishing specialists (the Big Deals High-Level Group) in the context of its open science activities. This group is responsible for monitoring the evolution of negotiation mechanisms and how these affect the content and financial conditions given to academic institutions.

From the outset, the Big Deals High-Level Group wanted to map major negotiations using information from EUA members in a variety of countries. This survey provides the first European overview of the negotiation process and outcomes, and describes the profile and organisation of negotiations, scope of beneficiaries, costs etc.

Information gathering is not easy, as contractual commitments often include strict confidentiality clauses, despite the fact that it seems paradoxical to promote openness and simultaneously withhold information about contracts that involve significant amounts of public funding. Transparency is also imposed under several national laws. The survey results therefore respect respondents' anonymity and aggregate certain data. The information obtained is very interesting, despite this limitation and the fact that it only covered a limited number of major publishers and so only provides a partial picture. The survey is unquestionably useful for consortia, institutional leaders and National Rectors' Conferences, which play an increasingly active role in the negotiation process. This report will also help researchers gain a better understanding of the dire reality of current publishing models and the importance of diversifying the ways in which scientific research results are disseminated. EUA will continue this work with a new survey in 2018.

I would like to thank the EUA team for completing this important and original survey, collecting the data and analysing the responses. I extend my thanks to the academic experts and librarians who steered it and contributed to interpreting the outcomes. I am also grateful to the EUA for taking the risk of promoting this sensitive study and publishing its results, faithful to its mission to serve and support the European university sector.

Prof. Jean-Pierre Finance

Chair of the EUA Expert Group on Science 2.0/Open Science

1. Introduction

Open science, in particular open access to research publications, is a multifaceted area evolving at high speed. It is changing how science is used and disseminated as well as daily scientific practices. Open science also promises greater efficiency and transparency for public research investments and research results. Alongside governments, policy-makers and other relevant stakeholders including research funders, universities across Europe are piloting this transformation and taking an increasingly active role in shaping open access policies at European, national and regional levels.

This development is reflected in a series of measures undertaken by the European University Association (EUA) in recent years. In 2015, it established the Expert Group on Science 2.0/ Open Science to help members make the transition towards open access. In February 2016, this expert group published a Roadmap on Open Access to Research Publications, which called for improved systems of scholarly communication and publishing business models. The document also established a practical platform for dialogue and sharing good practices in large contract negotiations with major scientific publishers (big deals). Subsequently, the EUA High-Level Group on Big Deals was formed and advised EUA to start gathering data on the European big deal landscape from a university perspective through a dedicated survey in spring 2016.

In June 2017, the Expert Group and High-Level Group further specified their vision for an open publishing system that implements full open access by 2020 along the lines of the Amsterdam Call for Action on Open Science. The document called for more cost transparency in the scientific publishing market. This report is an important step towards this goal. It collects national data across Europe that could support the development of large-scale national or international initiatives to ensure a publishing system that is fair and transparent for all stakeholders, specifically universities and university researchers who are simultaneously the content providers and peer-reviewers of research publications. The report also aims to identify opportunities for universities to improve the conditions of framework contracts with large scientific publishing companies.

The data in this report was anonymised and aggregated in line with the strict survey confidentiality policy. As data was collected between July 2016 and June 2017, the results have already informed EUA activities on open science and are reflected in key policy recommendations to EU institutions and national governments (October 2017). Where relevant, they will also inform EUA positions on open science throughout 2018.

EUA will continue to gather data about the European big deal landscape through a second survey, to support members in their negotiations with major scientific publishers and in making the transition towards an efficient, fair, transparent and sustainable open access system by 2020.

2. Methodology and participants

The EUA Council, comprising the President, members of the Board, and Chairs of the 33 full collective members, decided to map the European Big Deal landscape and adopted the methodology described below on 29 January 2016. The EUA Secretariat subsequently invited National Rectors' Conference members to take part in the Big Deals Survey by naming national scientific publisher negotiations experts.

Data was collected in two stages: first, national representatives completed a structured survey, then a 60-90 minute interview was organised to review responses and gather informal input. Across Europe, 28 National Rectors' Conferences named representatives from negotiating consortia. Of these, 27 country representatives completed both the survey and interview and one participated in only the interview phase. Data was collected between July 2016 and June 2017. As part of the methodology adopted by the EUA Council, respondents also participated in two workshops held in Brussels to discuss the survey outcomes and approve the data for publication.

The data was anonymised and aggregated in line with the survey's confidentiality policy, and to avoid the identification of individual countries. Readers should note that the data presented here may not be representative of the entire consortia and scientific publisher contracts situation across Europe due to substantial variations in the amount of data provided by each consortium. For example, data may not be representative of the overall Big Deal landscape in a particular country and contracts and collections involving the same publisher may not cover the same journals in all countries. Respondents did not report the overall number and cost of Big Deals in their country, as they were asked to focus on the three most expensive periodicals, databases and e-books contracts. Legal constraints were also taken into consideration. Different countries and different confidentiality laws resulted in different levels of data disclosure, particularly regarding costs.

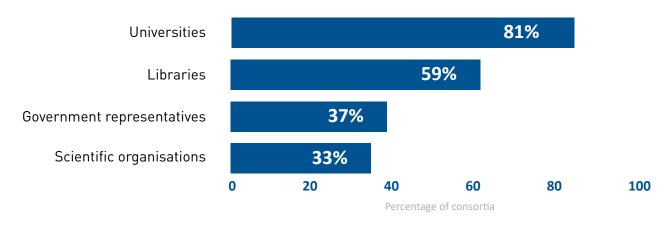
It is also important to consider that consortia do not operate identically across Europe. Some countries centralise negotiations at national level, establishing a single consortium or a limited number of consortia for different beneficiaries (e.g. universities, hospitals, public libraries), while other countries decentralise negotiations at regional level.

3. Big Deal negotiations consortia

This section includes information about the consortia negotiating Big Deal contracts, their functions and responsibilities. Information about the parties responsible for selecting publication products, negotiating contracts, paying suppliers and sources of funding is also provided. Unless otherwise specified, 27 out of 28 respondents answered this section of the report.

Universities and libraries form part of the consortia responsible for negotiating Big Deals (Figure 1) in most countries. Governments and scientific organisations only form part of the consortia in about a third of the countries surveyed.

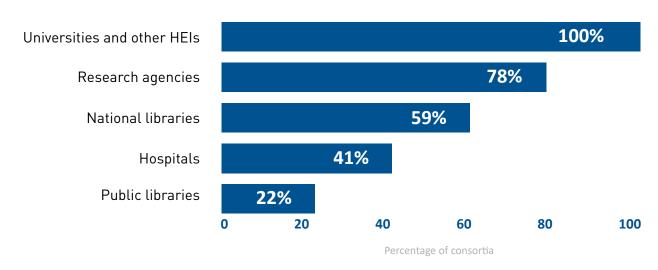
Figure 1. Members of the consortia



Note: multiple-choice question.

All the consortia responsible for Big Deals negotiations surveyed act on behalf of universities and higher education institutions (Figure 2). Research agencies were represented by 78%, and national libraries by 60% of these consortia. Hospitals and public libraries were least frequently represented.

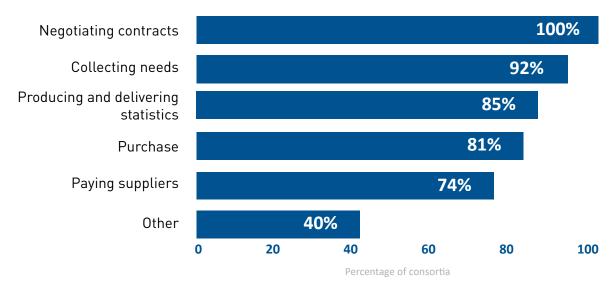
Figure 2. Scope of the consortia



Note: multiple-choice question.

All of the consortia surveyed were responsible for contract negotiations (Figure 3). Over 80% were also responsible for gathering members' needs, procuring contracts and producing internal statistics on Big Deal contracts.

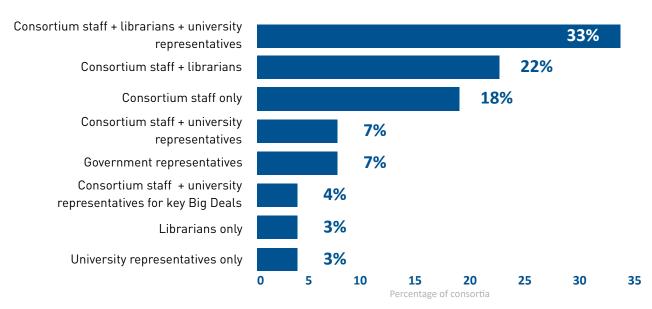
Figure 3. Functions of the consortia



Note: multiple-choice question.

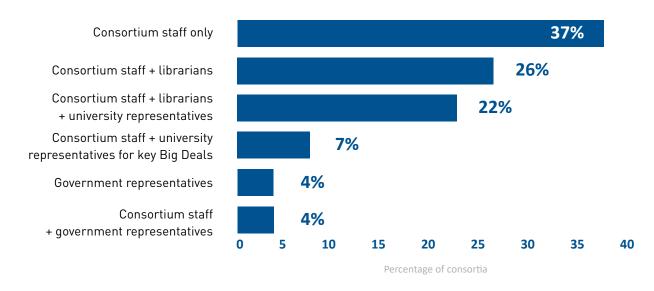
In about 33% of the countries surveyed, consortium members, librarians and university representatives were responsible for deciding which Big Deals to purchase (Figure 4). In 22% of countries, consortium members and librarians were jointly responsible for deciding which products to buy and decisions were taken by consortium members only in 18% of countries.

Figure 4. Procurement decision: committee members



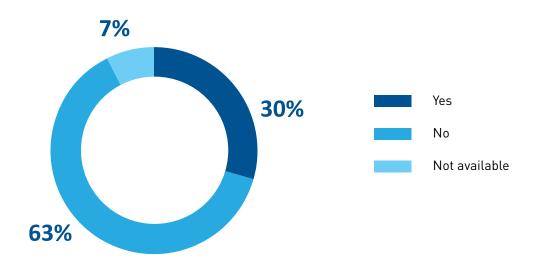
However, as shown in Figure 5, negotiations with scientific publishers were generally the responsibility of consortium staff (37%) or consortium staff and librarians (26%). In some cases, the government was responsible for these negotiations, either solely (4%), or in collaboration with consortium members (4%).

Figure 5. Publisher negotiations: committee members



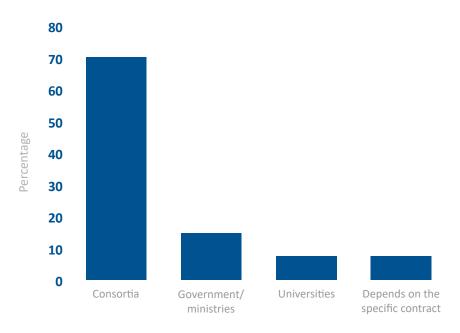
It is also worth noting that university leaders were not directly involved in publisher negotiations in over six out of ten countries, (Figure 6). This was only the case in about 30% of countries surveyed.

Figure 6. University leadership on the negotiation committee



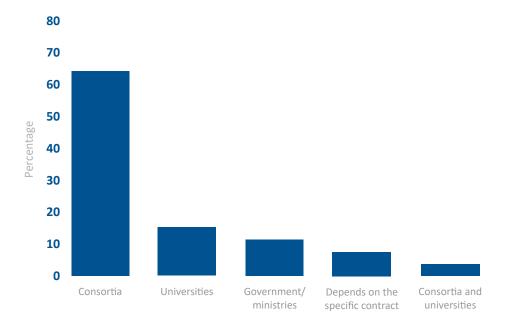
As shown in Figure 7, the consortium was responsible for signing Big Deal contracts in 70% of the countries surveyed. Central government or the relevant ministry signed these contracts in about 15% of cases, and universities signed the contracts directly in 7% of cases. Occasionally, the entities responsible for signing the contract varied depending on the nature of the specific contract.

Figure 7. Entities responsible for signing Big Deal contracts



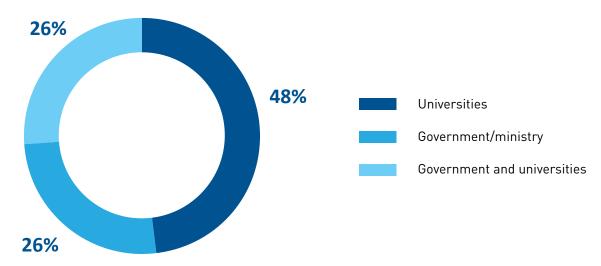
Consortia were responsible for contract payments in over 60% of cases. Central government or universities paid scientific publishers directly in 11-15% of cases.

Figure 8. Entities responsible for Big Deal contract payments



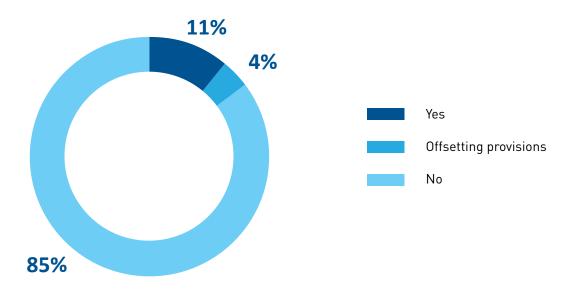
Big Deals were paid directly out of the university budget in almost 50% of the countries surveyed. Funding was provided directly by central government in 26% of cases and a mix of university and government funds were used to pay the remaining Big Deal contracts.

Figure 9. Source of Big Deal contract payments



Respondents also reported the inclusion of Article Processing Charges (APCs) in current and future Big Deal contracts. As shown in Figure 10a, over eight in ten respondents reported that APCs were not included in current Big Deal contracts. However, most respondents (63%) indicated that APCs would be included in future contracts (Figure 10b). Twenty-six percent of respondents reported being in ongoing discussions about potentially including APCs in Big Deal contracts, assessing the advantages and disadvantages of this change and examining other countries' experiences prior to their decision.

Figure 10a. APCs in current Big Deal contracts (2016-2017)



An Article Processing Charge is a fee that publishers charge authors for publishing a work in an open access or hybrid journal (https://en.wikipedia.org/wiki/Article_processing_charge).

26%

63%

Yes

No

Still under analysis

Figure 10b. Planned inclusion of APCs in future Big Deal contracts

4. Periodicals

4.1 Expenditure and main contract conditions

The countries surveyed reported information about a total of 82 subscription contracts. Respondents were asked to only take into account *the three largest Big Deals for periodicals*. This yielded estimated costs totaling EUR 383,567,655² per annum, which likely represents a conservative estimate of what universities and governments are paying under Big Deals for periodicals in Europe. Figure 11 sets out the relative spending on periodicals per publisher.

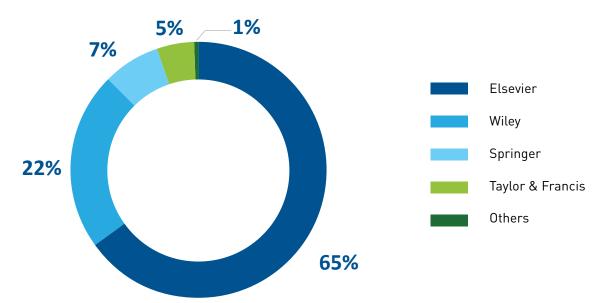


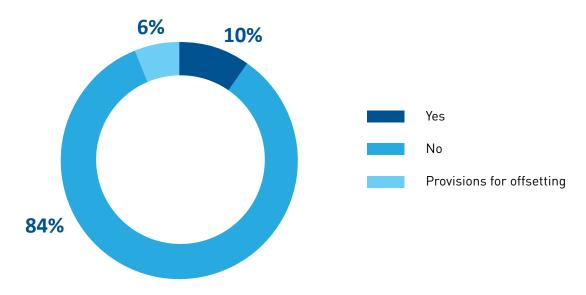
Figure 11. Percentage of periodicals expenditure per publisher (per annum)

Number of contracts: 66/82. 'Others' includes the Royal Society of Chemistry and the Institute of Electrical and Electronics Engineers (IEEE).

As shown in Figure 12, the vast majority of these Big Deal periodicals contracts did not include APCs – these were only included in about one in ten contracts.

^{2 23} countries provided data about their periodicals Big Deal expenditure. Information about costs was provided for 66 out of the total of 82 Big Deal periodicals contracts reported.

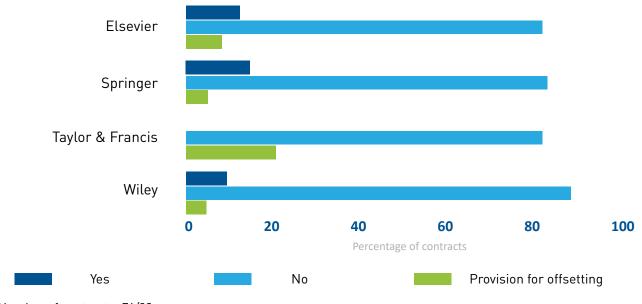
Figure 12. APCs in Big Deal periodicals contracts (2016-2017)



Number of contracts: 81/82

When examining APCs by publisher, Springer and Elsevier had the highest proportion of contracts with APCs at 14% and 12% respectively. About 20% of the Taylor & Francis contracts included offsetting provisions (Figure 13).³

Figure 13. APCs in Big Deal periodicals contracts per publisher



Number of contracts: 76/82

Big Deal periodicals contract durations ranged from one to nine years (see Figure 14). However, most contracts (53%) covered a three-year period. About 50%, included an increase of between 0-4% for each year covered by the contract (Figure 15). Almost 16% of contracts included annual price increases of between 4-6%, while respondents did not disclose price increases for about 27% of the reported contracts.

Offsetting agreements link subscription costs to APCs and are designed to reduce one fee as the other increases. For a discussion of the benefits and pitfalls of offsetting with a focus on the situation in the United Kingdom, see Earney, L. (2017). Offsetting and its discontents: challenges and opportunities of open access offsetting agreements. Insights, 30(1), 11–24. DOI: http://doi.org/10.1629/uksg.345

60 **50** 40 Percentage **30** 20 10 0 Permanent/continuous Not disclosed 1 Near 2 years 3 Years Ayears 5 years 1 Years

Figure 14. Big Deal periodicals contract durations

Number of contracts: 78/82

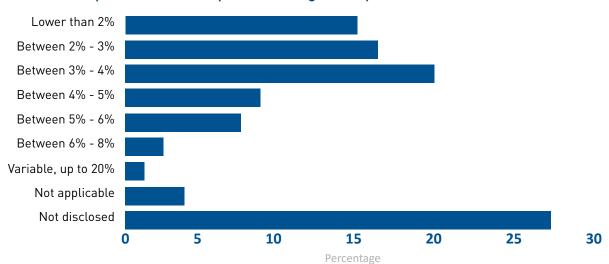


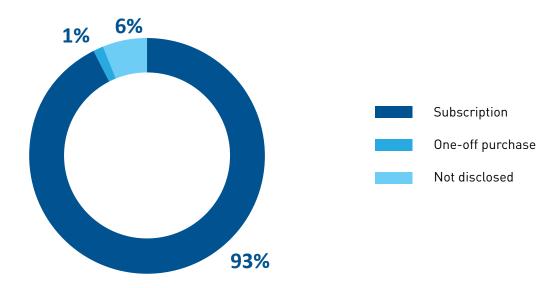
Figure 15. Annual price increase stipulated in Big Deals periodicals contracts

Number of contracts: 82/82

4.2 Purchase methods

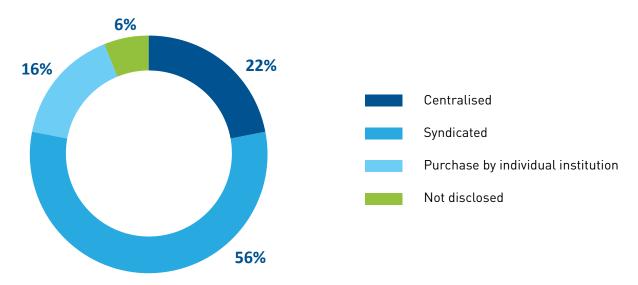
For periodicals, the most frequent type of Big Deal contracts was subscriptions (almost 93%), as shown in Figure 16. Most purchases (about 56%) were syndicated, meaning that the relevant consortium made the purchase and then recovered its costs from the institutions. About 22% of these contracts used a centralised model, involving no cost recovery from the institutions. And in 16% of cases, consortium representatives negotiated framework contracts, allowing institutions to purchase products directly from the publisher - the 'Purchase by individual institution' category shown in Figure 17.

Figure 16. Purchase types used in Big Deals periodicals contracts



Number of contracts: 77/82

Figure 17. Purchasing models used in Big Deals periodicals contracts

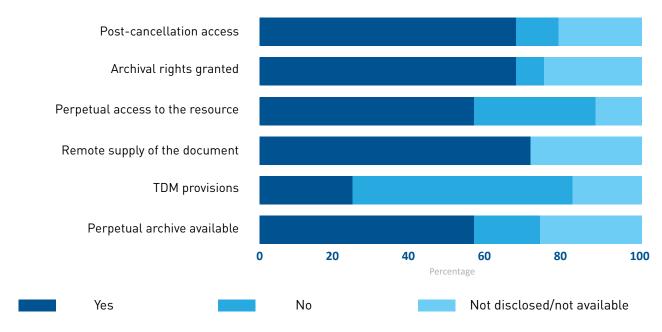


Number of contracts: 77/82

4.3 Associated rights under Big Deal periodicals contracts

Remote supply was the most frequent associated right granted under Big Deal periodicals contracts (in about 70% of cases). Post-cancellation access and archival rights were granted under about 67% of periodicals contracts. Perpetual access and a perpetual archive were granted under 56% of these contracts. Text and Data Mining (TDM) was the least frequent right included in Big Deals for periodicals, with only about 24% of contracts including TDM provisions (see Figure 18).

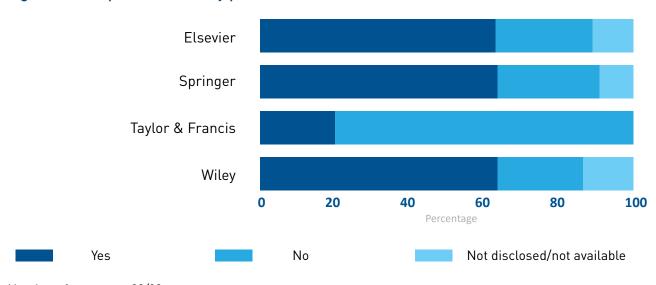
Figure 18. Associated rights granted under Big Deals periodicals contracts



Number of contracts: 82/82

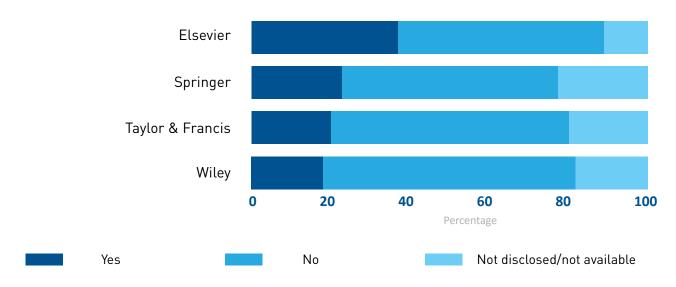
Examining the associated rights granted by each publisher (Figures 19 and 20) reveals that over half of the Elsevier, Springer and Wiley contracts granted perpetual access. However, TDM was seldom included in any contracts with any publishers. In the minority of cases where TDM provisions were included, publishers actually provided dedicated platforms and analysis tools.

Figure 19. Perpetual access by publisher



Number of contracts: 82/82

Figure 20. TDM provisions in Big Deal contracts per publisher

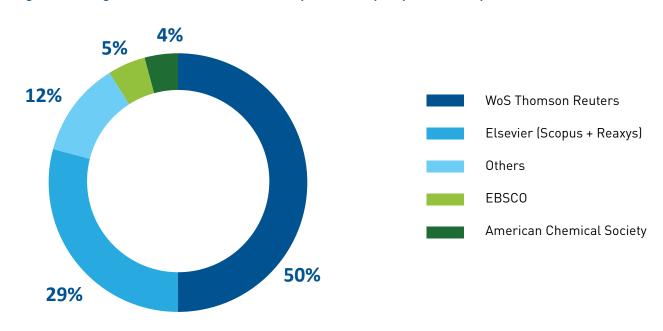


Number of contracts: 82/82

5. Big Deal database contracts

The countries surveyed reported information on a total of 62 Big Deal database contracts. Respondents were asked to only take into account *the three most expensive Big Deals for databases*, normally including Thomson Reuters Web of Science™ and Elsevier Scopus®. A total of EUR 33,308,218 (per annum) was reported.⁴ Like Big Deal periodicals contracts, reported expenditure represents a conservative estimate of total Big Deal database costs. Figure 21 shows the proportion of Big Deal database expenditure per publisher.

Figure 21. Big Deal database contract expenditure per publisher (per annum)



Number of contracts: 43/62

In total, 25 respondents provided information about Big Deal database contracts. Of these, 20 provided information about the related expenditure. This expenditure information was provided for 43 out of the total of 62 Big Deal database contracts reported.

Most database contracts covered periods ranging from one to three years (see Figure 22), with the most common durations being three (40%) and one-year contracts (26%).

60 **50** 40 Percentage 30 20 10 0 Not disclosed

Figure 22. Big Deal database contract durations

Number of contracts: 62/62

1 Near

Most (37%) of these contracts included annual price increase provisions ranging between 1% and 4% (Figure 23).

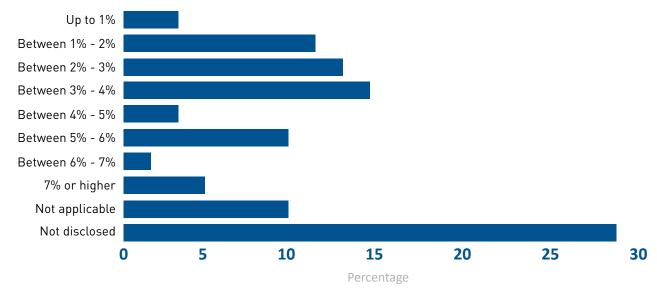


Figure 23. Annual price increase stipulated in Big Deal database contracts

3 Years

Number of contracts: 62/62

Virtually all Big Deal database contracts were subscriptions as shown in Figure 24. About 68% of purchases were syndicated, meaning that the relevant consortium made the purchase and then recovered its costs from the institutions. Eighteen percent of these contracts used a centralised model, involving no cost recovery from the institutions. And in 15% of cases, consortium representatives negotiated framework contracts, allowing institutions to purchase products directly from the publisher - the 'Purchase by individual institution' category shown in Figure 25.

2%

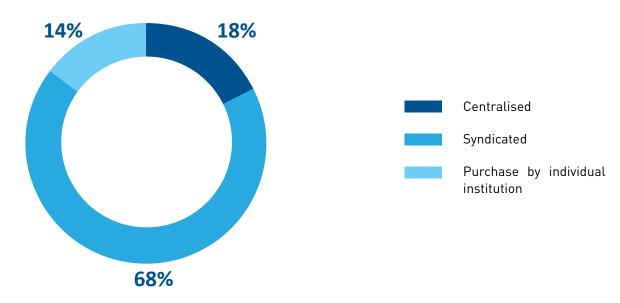
Subscription
One-off purchase

Figure 24. Purchase types used in Big Deals database contracts

Number of contracts: 62/62



98%



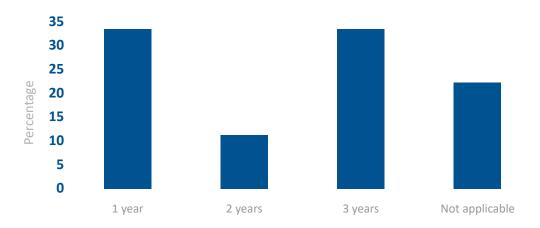
Number of contracts: 62/62

6. Big Deal e-books contracts

Fifteen countries reported information about a total of 27 Big Deal e-books contracts. Respondents were asked to only take into account the three most relevant Big Deal e-books contracts. The e-books situation in many countries is mixed. Sometimes there are dedicated e-books contracts, and on other occasions e-books are included in a framework contract (for example, periodicals and e-books are covered by the same contract). A total cost of EUR 4, 171,975 (per annum) was reported for the 27 Big Deal e-books contracts.

Most of these contracts had durations of either one year (33%) or three years (33%), as shown in Figure 26.

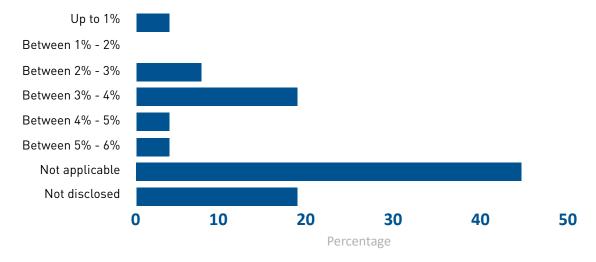
Figure 26. Big Deal e-books contract durations



Number of contracts: 27/27

In most cases, there was no annual price increase, as e-books involved one-off purchases (Figure 27). In the remaining cases, the annual price increase was generally between 3-4%.

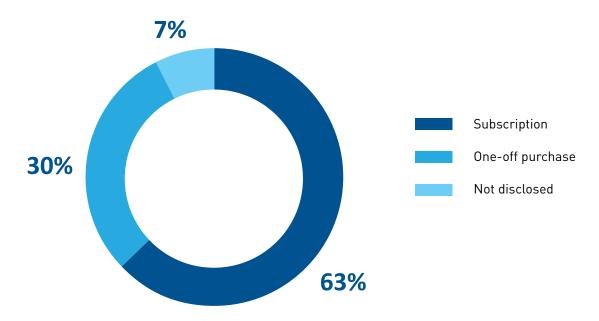
Figure 27. Annual price increase stipulated in Big Deal e-books contracts



Number of contracts: 27/27

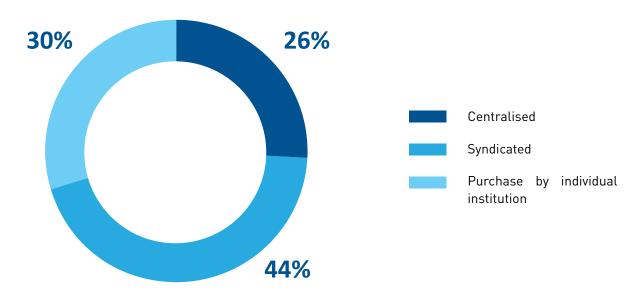
In terms of purchase type, 63% of e-books contracts were subscription agreements and almost 30% were one-off purchases (Figure 28). About 45% of purchases were syndicated, meaning that the relevant consortium made the purchase and then recovered its costs from the institutions. Twenty-six percent of these contracts used a centralised model, involving no cost recovery from the institutions. And in nearly 30% of cases, institutions purchased the products directly from the publisher (Figure 29).

Figure 28. Purchase types used in Big Deal e-books contracts



Number of contracts: 27/27

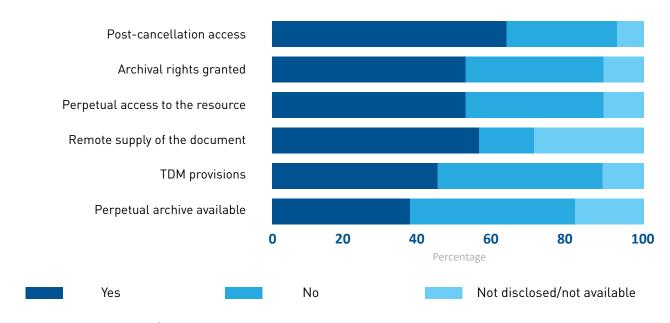
Figure 29. Purchasing models used in Big Deal e-books contracts



Number of contracts: 27/27

Post-cancellation access was the associated right most frequently granted under e-books contracts (about 63%). Remote document supply, archival rights and perpetual access were granted in 52-56% of cases. Perpetual archiving was the least frequent right, granted in about 37% of cases (Figure 30).

Figure 30. Associated rights granted under Big Deal e-books contracts



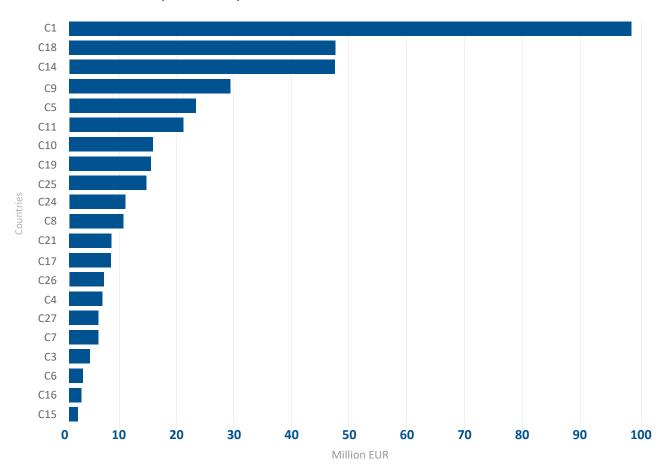
Number of contracts: 27/27

7. The cost of Big Deal contracts in Europe

A conservative cost estimation was performed in order to explore the overall Big Deal costs reported by each country using data from the EUA Big Deals Survey. Figure 31 shows the total costs reported for Big Deals covering periodicals, databases and e-books per country surveyed.⁵

Readers must remember that EUA survey data does not cover all Big Deal contracts in the various countries, and that each country reported varied amounts and levels of data. Despite these shortcomings, Figure 31 reveals major variations in Big Deal costs between countries.

Figure 31. Total annual reported expenditure on Big Deal contracts (including periodicals, databases, e-books) per country



Number of contracts: 121

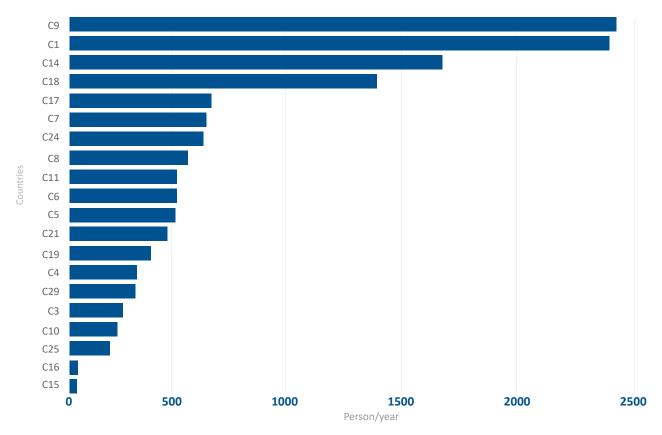
The Big Deal costs reported (including periodicals, databases and e-books) were also compared to gross domestic product (GDP) per capita.⁶ Figure 32 represents the number of people who need to work for one year (given the relevant GDP per capita) to reach the same

Twenty countries were included in this analysis - the other countries were excluded due to incomplete data.

6 GDP per capita data for 2015 was retrieved from Eurostat. Eurostat defines GDP as "an indicator for a nation's economic situation. It reflects the total value of all goods and services produced less the value of goods and services used for intermediate consumption in their production. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries, and calculations on a per head basis allows for the comparison of economies significantly different in absolute size."

monetary value as the Big Deal expenditure reported for that country. The limitations of the study do not allow us to conclude that there is any direct correlation between Big Deal costs and national GDP but do reveal wide variations in this relationship in different countries, as in the previous figure.

Figure 32. Big Deal expenditure and GDP per capita



Number of contracts: 121

⁷ Calculated by dividing total Big Deal expenditure (periodicals, databases, e-books) by GDP per capita.

8. Conclusions

This report aims to provide a first overview of the European Big Deal contract landscape from a university perspective. Based on contributions by participants from 28 National Rectors' Conferences across Europe, it contains a number of relevant and timely insights on large-scale negotiations with scientific publishers, which can be summarised as follows:

GENERAL OUTCOMES

High response rate demonstrates universities' commitment to dialogue.

The high response rate from countries across Europe (28 respondents out of 33 full collective EUA members) is a very positive indication that the university sector perceives the issue of large contracts with major scientific publishers as a relevant arena for pan-European dialogue. It also indicates that the university sector is interested in achieving better contractual framework conditions in negotiations with big academic publishing companies.

National legislation and product variations affect data collection.

It is important to note that the data collected in this first report on the EUA Big Deals Survey presents some limitations. For example, respondents did not report on the total cost or number of Big Deals in their country as the focus was only on the three most expensive contracts for periodicals, databases and e-books.

Legal constraints also need to be taken into consideration. Different countries and different legal frameworks resulted in different levels of data disclosure, particularly regarding costs. It is also worth mentioning that products with the same name (e.g. a specific collection of journals from a specific publisher) can contain different content, which limits the validity of cross-country comparisons.

Data aggregation protects respondents but complicates country-specific analysis.

Data analysis was aggregated to prevent identification of the respective countries. While this complicated the analysis and limited the capacity to extract more in-depth conclusions, this measure was necessary due to the sensitive, confidential nature of the data provided.

CONSORTIA AND THE ROLE OF UNIVERSITIES

Consortia broadly represent relevant stakeholders and are driven by researchers' needs.

The report demonstrates that university and library representatives play an integral role in the consortia that negotiate with publishers. Government staff or representatives of other scientific organisations are less often involved. Furthermore, consortia often negotiate on behalf of national libraries (ca. 59%) and hospitals (ca. 41%). The report also underlines that consortia generally (ca. 93%) gather information about scientific community needs prior to negotiations and thus build decisions from the ground up.

University leadership is starting to take an active role in steering and governance.

The report highlights that university and library representatives are increasingly taking an active role in negotiations with scientific publishers. It shows that there is room for further improvement as two thirds of respondents stated that university leadership was not involved in past negotiations. This insight is amplified by the fact that 48% of the funds for Big Deal contracts were reported to come directly from university budgets, with only 26% coming from governmental or ministerial sources and the remaining 26% being a combination of government and university funds. Greater leadership involvement could strengthen the sector and its negotiating position with large publishing companies.

THE COST OF BIG DEALS

Cost estimates are conservative and the potential cost savings inherent to a full open access environment are considerable.

Despite the limitations of the data collected in this survey, the results do point to the magnitude of Big Deal costs in Europe. Real costs are surely much higher than those reported in this study, as respondents were only asked to provide data for their three most expensive contracts and not all respondents were able to share data. As outlined above, the amounts reported led to a total figure of EUR 421,047,848 for combined expenditure on periodicals, databases and e-books in the period covered by the report, with the largest amount spent on periodicals (EUR 383,567,655). Recent studies have estimated that the transition towards an open access publishing system could result in savings of up to 45% for periodicals alone.8 This would imply potential savings of around EUR 170,000,000 on journals in Europe, which could be re-allocated to research and/or to moving towards a full-scale open access publishing system.

Universities are hesitant about Article Processing Charges, but these could become an important instrument for the transition to full open access.

Only a minority (11%) of consortia included Article Processing Charges (APCs) in their current Big Deal contracts, while almost two thirds (63%) were considering including APCs in future Big Deals. International dialogue and peer learning could help clarify the situation and provide broader knowledge and experience allowing countries to decide whether to pursue this approach in future negotiations. Offsetting mechanisms could likewise become a tool in transformative and affordable agreements with publishers as indicated in data collected by the INTACT project through its Open APC platform. Recent literature furthermore suggests that greater transparency of expenditure; active service-level arrangements aiming at administrative efficiency; robust monitoring mechanisms; and, novel cost reallocation mechanisms would have to be important elements of these agreements. Future editions of the EUA Big Deals Survey will shed more light on the development of this issue.

Schimmer, R., Geschuhn, K. K. & Vogler, A. (2015). Disrupting the subscription journals' business model for 8 the necessary large-scale transformation to open access. DOI: http://dx.doi.org/10.17617/1.3
9 Earney, L. (2017). Offsetting and its discontents: challenges and opportunities of open access offsetting

agreements. Insights, 30(1), 11-24, p. 21. DOI: http://doi.org/10.1629/uksq.345

Cost estimates reveal uneven distribution across Europe.

The survey results also reveal great disparities in the cost of Big Deals across Europe. irrespective of the different levels of cost transparency due to national legislation (for example, whether or not a Freedom of Information Act is in place). Total national expenditure on Big Deal contracts (periodicals, databases, e-books) varies widely from EUR 1,410,937 to EUR 97,542,034 (per annum). It is worth noting that the relationship between reported Big Deal costs and GDP per capita also varies from 31 to 2494 person/year. Interestingly, total national expenditure and the relationship between total national Big Deal expenditure and national GDP per capita very rarely match. There is no simple, straightforward connection between total national Big Deal expenditure and national GDP.

UNIVERSITIES AND BIG DEAL NEGOTIATIONS: LOOKING AHEAD

Publishing companies generate steady profits, while university budgets are under pressure.

The significant total university expenditure on periodicals, databases and e-books can be contrasted with large scientific publishers' growing profit margins. For example, Elsevier owner, the RELX Group, increased its adjusted operating profit by 5% from 2014 to 2015 and 6% from 2015 to 2016 and 2016 to 2017. Such expanding profits need to be contrasted with Europe's long-term university funding trends, which are reflected annually in the EUA Public Funding Observatory. Figures for the 2008-2016 period show that only Austria, Germany and Sweden exhibit a sustainable investment pattern when considering funding trends against student enrolment growth, while 19 countries suffered funding cuts. 11 The European university sector is generally operating under severe financial strains.

RELX Group Annual Reports and Financial Statements 2015, p. 2, available online https://www.relx. com/~/media/Files/R/RELX-Group/documents/reports/annual-reports/2015-annual-report.pdf, RELX Group Annual Reports and Financial Statements 2016, p. 2, available online https://www.relx.com/~/media/Files/R/RELX-Group/documents/reports/annual-reports/relx2016-annual-report.pdf, RELX Group Annual Reports and Financial Statements 2017, p. 2, available online https://www.relx.com/~/media/Files/R/RELX-Group/documents/reports/annual-reports/relx2017-annual-report.pdf. It is important to bear in mind that not all publishing companies were as profitable as RELX. John Wiley & Sons recorded a 3% increase in their research segment profit margin from the 2013 to the 2014 fiscal years (John Wiley & Sons, 2014 Annual Report, p. 29, available online http://www.annualreports.com/HostedData/AnnualReportArchive/j/NYSE_JW-A_2014.pdf), no increase/decrease from the 2014 to the 2015 fiscal year (John Wiley & Sons, 2015 Annual Report, p. 29, available online http://www.annualreports.com/HostedData/AnnualReportArchive/j/NYSE_JW-A_2015.pdf) and an 8% decrease from the 2015 to the 2016 fiscal year in comparison with 2015 (John Wiley & Sons, 2016 Annual Report, p. 29, available online at http://www.annualreports.com/hostedData/AnnualReportArchive/j/NYSE_JW-A_2015.pdf) and an 8% decrease from the 2015 to the 2016 fiscal year in comparison with 2015 (John Wiley & Sons, 2016 Annual Report, p. 29, available online at http://www.annualreports.com/hostedData/AnnualReportArchive/j/NYSE_JW-A_2015.pdf) and an 8% decrease from the 2015 to the 2016 fiscal year in comparison with 2015 (John Wiley & Sons, 2016 Annual Report, p. 29, available online at http://www.annualreports.com/hostedData/AnnualReportArchive/j/NYSE_JW-A_2015.pdf) annualreports.com/HostedData/AnnualReports/PDF/NYSE_JW-A_2016.pdf). Informa PLC which owns Taylor & Francis published the following numbers: a slight 0.2% decrease in the adjusted operating profit from 2013 to 2014 (Informa, Understanding Informa: Annual Report and Financial Statements 2014, p. 7, available online https:// informa.com/Documents/Investor%20Relations/Annual%20Report/Informa AR14 Complete.pdf), a 9.5% increase in the adjusted operating profit from 2014 to 2015 (Informa, Progress and Performance: Annual Report and Financial Statements 2015, p. 4, available online https://informa.com/Documents/Investor%20Relations/Annual%20Report/Informa-Annual-Report-2015.pdf), a 13.8% increase in the adjusted operating profit from 2015 to 2016 (own calculation based on figures in Informa, Balance and Breadth: Annual Report and Financial Statements 2016, p. 3, available online http://fr.zone-secure.net/20307/320850).

11 Bennetot, E. P., Estermann, T., & Kupriyanova, V. (2017). EUA Public Funding Observatory Report 2017 (pp.

^{8-11].} http://www.eua.be/Libraries/governance-autonomy-funding/eua-pfo-report-december-2017.pdf.

Should Big Deal negotiations take place at international level?

This report's revelations of the cost disparities between participating countries can stimulate strategic stakeholder debate about whether future negotiations should continue to be pursued at national level or whether an international approach could lead to a more open academic publishing system in Europe that is more efficient, fair, transparent and sustainable.

EUA remains committed to providing a platform for dialogue about Big Deal negotiations and for sharing good practices and information about the development of the Big Deal landscape in Europe to increase the efficiency and transparency of scientific publishing. This commitment will materialise through dedicated meetings of the corresponding consultation bodies and a second edition of the Big Deals Survey in 2018. It will also inform the policy work of the EUA High-Level Group on Big Deals and the Science 2.0/Open Science Expert Group for years to come.

The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 47 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, website and publications.



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