This paper examines approaches consortia can take to engage commercial publishers’ hybrid open access (OA) publication programs. The article argues that it is both appropriate and necessary for library consortia to demonstrate leadership in influencing the information marketplace. Two different models for approaching negotiations on hybrid OA publication programs are examined: 1) ‘Market Determinative’ negotiations strategy using the example of the SCOAP3 project, and; 2) ‘Consortium Discount’ negotiations strategy, comprised of three variations on existing consortia business practices and negotiations regimen. An examination of the advantages and challenges of the Consortium Discount Approach indicates that the latter approach would have a greater chance for success across a broad spectrum of commercial OA programs. Keys to this conclusion include: establishing linkages between consortium licensing and hybrid titles, cost containment and alignment and engaging with publisher programs through an integrated model approach. Questions for further research are raised.

INTRODUCTION
The promise and the challenge of open access (OA) publishing is the single greatest disruptive factor to the current scholarly communications ecosystem. Open access has in short order altered both the mechanisms for distribution and the economics of scholarly journal publishing (Laasko et al. 2011). As a result of the effort of many critical voices in the researcher and library communities, OA publication mandates (requirements to make the outputs of research publically accessible) have gradually been developed and formalized through many large funding bodies such as the Wellcome Trust (UK), National Institutes of Health (NIH, US) and Natural Sciences and Engineering Research Council of Canada (NSERC) and Social Sciences and Humanities Research Council of Canada (SSHRC). The last decade has seen a dramatic tenfold increase in OA journal publication rates (ibid.), with mandates playing an important role.¹

In 2003, David Prosser SPARC (Scholarly Publishing and Academic Resources Coalition) Director for Europe posited a ‘migration path’ for closed, subscription-based journals towards open access. In his article, Prosser (2003) argued that existing journals could present authors with two options: pay a publication charge (also known as Author Payment Charge or ‘APC’) to ensure immediate open access publication or not pay the charge and have the article only available to subscribers. This approach, dubbed the ‘hybrid journal’, would provide authors and readers with the benefits of OA within existing vehicles, while ensuring a smooth transition from declining subscription revenues to increased revenues from publication charges (ibid.). A summary of key OA publication terminology is listed below.
TABLE 1 – Open Access List of Terms

<table>
<thead>
<tr>
<th>TERM</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Open Access (OA)</td>
<td>Scholarly content delivered by open access repositories</td>
</tr>
<tr>
<td>Gold Open Access (OA)</td>
<td>Scholarly content delivered by open access journals</td>
</tr>
<tr>
<td>Hybrid Open Access (OA)</td>
<td>Journals that provide OA to some content and subscription access to the remainder; the choice is the author’s rather than the editor’s and is typically based on payment of a fee</td>
</tr>
<tr>
<td>Open Access Mandate</td>
<td>Policies intended to make the results of funded research OA; these may be encouraged or required deposit in nature based on a funding body’s policy</td>
</tr>
<tr>
<td>Author Processing Charge (APC)</td>
<td>An up-front charge levied to an author to publish an open access article in a hybrid journal</td>
</tr>
</tbody>
</table>

(Suber 2013, 6, 140, 138, 78-79)

Many of the largest commercial publishers initially opposed OA publication models as not commercially sustainable and harmful to peer review, innovation and quality standards (Suber 2007). Eventually though, most large publishers moved to address the increasing demands from scholars and funding bodies alike for a Gold OA publication route; that is, to provide OA within existing subscription based journals. Beginning with Springer’s ‘Open Choice’ option (currently branded ‘Springer Open’), publishers began to utilize Prosser’s Author Payment Charge model to provide OA dissemination of research within existing journals. Attempts to measure the success of these commercial hybrid OA programs, however, have demonstrated that “…the uptake among the biggest commercial publishers … is generally very low, below 2%” (Björk 2012, 1502). While open access publishing is advancing rapidly, hybrid OA has not performed to expectations, and has not kept pace with OA publication trends generally.

The release of the Finch Report² in the UK in 2012 unequivocally recommended system wide funding for Gold OA, and provided a specific endorsement for hybrid journals to further boost OA publication in the UK Higher Education sector.
Recommendation i) reads: “…a clear policy direction should be set towards support for publication in open access or hybrid journals, funded by APCs, as the main vehicle for the publication of research, especially when it is publicly funded” (Finch 2012, 7). The Finch report further notes concern over the high costs of current APCs and states that the success of its recommendations and the adoption of OA publication rely upon the ability of all stakeholders to reduce the costs of APCs. Such a process must include an examination of the linkage between such costs to existing subscription revenues in the intervening ‘mixed model’ (ibid.). A similar call to action occurred in 2012 through a joint working group of the Canadian Association of Research Libraries (CARL) and the Canadian Research Knowledge Network (CRKN) – Canada’s National licensing consortium for all academic research institutions. This group released a draft report on advancing OA in Canada. Recommendation #9 urged that the CRKN seek a mandate from its members to “actively advance” the use of OA publishing and though its licensing activities negotiate “…more favorable OA article processing charges with commercial vendors” (CARL, CRKN 2012, 23).

This study will seek to answer the challenge posed by specific directives such as those outlined in Finch and the CARL-CRKN Reports by examining and recommending roles and actions that can be taken by library consortia to address APCs in commercial hybrid OA journals. No attempt will be made to investigate the relative costs, advantages, disadvantages or synergies of the various Green OA alternatives to that of Gold OA. While academic library consortia have been slow to react to the challenge of commercial OA programs with a few exceptions, this article takes as its starting premise that the economic leverage required to influence and grow OA publishing within
hybrid models will be based upon the ‘ability to pay’ (in a generalized sense) of academic libraries and, in particular, through their collective agents, consortia. This paper will argue that it is both appropriate and necessary for library consortia to demonstrate leadership and to influence the information marketplace for hybrid OA programs and to apply the successful practices of decades of experience in negotiating electronic resources licenses. Based on the confluence of both OA hybrid programs and existing negotiations relationships, this article will focus on the potential benefits and challenges of consortia negotiations to hybrid OA programs.

LIBRARY CONSORTIA AS NEGOTIATING AGENTS

A brief overview of academic library consortia’s purpose and functioning suggests that these bodies are well equipped both in economic spheres (in terms of leverage, experience, proven outcomes) and in a non-economic spheres (advocating policy standardization and promoting wide and equitable distribution and use of scholarly information) to deal with negotiating with commercial publishers to affect a positive outcome on hybrid OA costs. Maskell’s (2008) meta-analysis of consortia examined these organizations from the perspective of a public good and argued persuasively that these bodies exist to fulfill two central functions: 1) economic, which includes centralized negotiations with publishers and centralized services; and 2) non-economic, including reducing redundancy, fostering standardization on policy and leveling the playing field through broad access to members.

On the economic side, academic library consortia fundamentally represent increased bargaining power relationships with publishers, which are far greater than any
individual library could bring to bear; this has been particularly true in the negotiation of large-scale electronic resources licenses. In so doing, consortia deliver “considerable economic advantage” to members (ibid., 164). Guzzy notes succinctly that: “…consortia representatives observed how their purchasing power helped to substantially reduce the cost for their members and save millions of dollars for these institutions…” (Guzzy 2010, 177). Pan and Fong’s (2010) analysis of the return on investment (ROI) for the University of Colorado University system showed considerable economic advantage for consortia, estimating an ROI of between 56% to 751% and a cost-benefit analysis of between $1.56 to $8.15 per dollar invested between the largest and smallest consortium members’ savings. Perhaps the most significant testament to the continued economic value of consortia is the perseverance of consortially negotiated license renewals 5,6 over a period of significant budget stress and contraction.7

Library consortia have similarly been at the forefront of advocating for the advance of standards that favor user rights. Several prominent examples from the US, Canada and the UK illustrate that such bodies can be effective advocates for advancing users’ rights through standardization and equalization of access. The development and championing of license standardization through model license clauses was originally given voice by various bodies, including ARL’s Principles for Licensing Electronic Resources in 1997, as well as statements from the broader library community by International Federation of Library Associations (IFLA) in 2001 and International Coalition of Library Consortia (ICOLC) in 2004. Gillies and Horava (2009) provide a fuller overview of how these principles were put into effect, given significant momentum and solidified through the use of model license agreements developed by the CDL.
(California Digital Library), JISC (Joint Information Systems Committee), CRKN (Canadian Research Knowledge Network) and OCUL (Ontario Council of University Libraries). By advocating for better terms from publishers through a collective front, consortia have proven their collective ability to positively influence access to and the use of scholarly information. Coupled with the burgeoning evidence that OA publication generally increases impact factor and citation rates for articles (Gargouri 2010; Hitchcock 2013), negotiations over cost that could spur promotion and adoption rates fit well within consortial mandates to expand access to scholarly information.

DETERMINING PRICE FLEXIBILITY

Before moving on to an examination of the two proposed methods, it is prudent at this juncture to determine whether there would be enough price flexibility within the current structure of commercial-hybrid APCs to allow direct negotiations. Price flexibility is defined here simply as the potential for change in the amount charged by a publisher for APCs. At a macro level, a number of writers have asserted, using various studies such as the Wellcome Trust, that substantial profits are built into many of the business models currently in use by commercial publishers (Goodman 2004). In terms of overall pricing for journals, economists have noted that: “…we also observe greater opacity, with list prices being essentially meaningless, and real prices hidden behind non-disclosure clauses in sales contracts” (Odlyzko 2012, 6). Total publishing costs at the article level have been defined historically in the range of $400-$5,000 USD (ibid.). This lack of clear understanding and financial disclosure extends to the fundamental question behind negotiations for OA APCs: what should it cost to publish individual
journals in hybrid OA programs and, conversely, what should be charged for such services? It is argued in this paper that, based on the available economic data, it is reasonable to assume that commercial hybrid APC costs (underwritten and supplemented in most cases by a continued subscription base) have some level of price flexibility.

While the UK study commissioned in 2008 for the Research Information Network (RIN) estimated a publishing and distribution cost per article pegged an average OA cost at £2,863 GBP (CEPA 2008), other studies have disputed this amount. In the Houghton Report (2009), the commission determined that an APC of £1,125 GBP per article (approx. $1,800 USD in 2011) would provide the basis for the required basic ‘overlay services.’ Houghton estimated that a rate of £1,524 GBP per article (approx. $2,300 USD in 2011) for e-only OA publishing would be reasonable and inclusive of some level of commercial profit (ibid.). By comparison, costs per article for subscription based journal articles were determined to be £2,337 GBP (ibid.). The Finch Report (2012), following methodology ostensibly calculated on the actual amounts paid by the Wellcome Trust, determined an average APC rate of around £1,450 GBP per article (approx. $2,320 USD in 2011). In the most systematic study completed to date, Solomon and Björk (2012) surveyed APCs from journals listed in the Directory of Open Access Journals (DOAJ) and determined that the average APC cost from this much larger sample (inclusive of commercial, society and not-for-profit publishers) was $906 USD, with a total range of $8 to $3,900 USD.
When one critically examines the overall variability and disparity in pricing within the OA Gold publication market for APCs, (see table below), one is similarly confounded at the wide variation in price and structures presented on commercial hybrid APCs.

### TABLE 2 - APC Rates

<table>
<thead>
<tr>
<th>Publisher</th>
<th>APC Charge (2013) †</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elsevier Open Access Options</td>
<td>$500-$5,000</td>
</tr>
<tr>
<td>Cambridge University Press</td>
<td>$2700 Hybrid OA / $900 full OA</td>
</tr>
<tr>
<td>Sage Open and Sage Choice (HSS/STM)</td>
<td>$695 / $1,500 (HSS) / $3,000 (STM)</td>
</tr>
<tr>
<td>Oxford University Press</td>
<td>$1000-$3,750</td>
</tr>
<tr>
<td>Springer Open Choice</td>
<td>$3,000</td>
</tr>
<tr>
<td>Taylor and Francis Open Select (including Routledge)</td>
<td>$2,950</td>
</tr>
<tr>
<td>Wiley OnlineOpen</td>
<td>$3,000 ‡</td>
</tr>
<tr>
<td>PLoS</td>
<td>$1350 - $2,900</td>
</tr>
<tr>
<td>BioMed Central</td>
<td>$660 - $2,600</td>
</tr>
</tbody>
</table>

†All prices listed in USD unless otherwise noted. Exchange rate for UKP to USD is 1.50.

‡Some exceptions listed on publisher’s website: [http://olabout.wiley.com/WileyCDA/Section/id-406241.html](http://olabout.wiley.com/WileyCDA/Section/id-406241.html)

Based on difficulties in determination of costs, and the large discrepancy between what studies have concluded to be viable costs for OA journal publishing and the current costs of the commercial programs, it is reasonable to assume that authors are being presented with essentially a publisher ‘list price’ proposal on APCs; current APC rates include both the basic overlay services in addition to some level of profit margin. Comparison of commercial publisher costs presented to authors with either the lower figure presented by Solomon and Björk or the higher figures arrived at by Houghton and by Finch reinforce this claim. Moreover, the studies completed to date on OA journal article publishing costs typically do not account for the cross-subsidization
that accrues to publishers by maintaining a current subscription base to hybrid OA journals. It follows then that there would in all likelihood be some level of price flexibility in the current commercial hybrid offerings’ of APCs, and that at least some of the discrepancy would be accounted for by variable (e.g. profit margins, business inefficiencies) rather than fixed costs.

**TWO APPROACHES TO NEGOTIATING HYBRID OA FEES**

While there could be potentially numerous iterations of methodologies to negotiate OA APCs through library consortia, this paper will examine two. The rationale for choosing these two methods was based on the following factors: both methods have been employed in negotiations with publishers, both methods assume the continuation of the current form of scholarly journals and both methods strike a balance of interests, in that they provide viable revenue alternatives to publishers in exchange for OA gains – meeting the requirements of Prosser’s ‘migration path’ to provide revenue to transition to full OA – while also meeting the fundamental imperative to drive down APC costs as outlined in the Finch and CRKN-CARL Reports.

The first approach, which we will call ‘Market Determinative Approach’, is exemplified by the SCOAP3 scholar community initiative that developed, calculated and superimposed set pricing for targeted journals on behalf of the end user community. While this first approach is not put forward here as a viable alternative (for reasons discussed below), SCOAP3 will be reviewed to help orient and inform the second negotiation method. The second approach, which we will call ‘Consortium Discount Approach’, provides examples of how the existing business practices and negotiations
regimen can be employed by library consortia to negotiate with commercial publishers over hybrid OA costs. Consortial initiatives to negotiate and thereby influence the pricing schemas for OA APCs should be viewed as part of the continued conversation over the price-value of an electronic journal on the one hand and the sustainability of scholarly publishing on the other. In this sense, the following strategic approaches are viewed as complimentary to current e-resources negotiations and publisher-library conversations over who pays for OA.

MARKET DETERMINATIVE APPROACH

When the SCOAP3 initiative (Sponsoring Consortium for Open Access Publishing in Particle Physics) was initially developed and proposed by scientists at CERN to the research library community beginning in 2009, it was heralded as “audacious” and “…a grand experiment” (Anderson 2008, 12-13). What makes the SCOAP3 such an inventive project is that it proposed to create a supra-national funding consortium that would pool money to license the majority of High Energy Physics (HEP) journals not already available as open access to OA. Mele (2009) describes SCOAP3 as a framework for libraries to create a broad consortium to centrally fund peer review activities and services by redirecting funds currently directed towards journal subscriptions resulting in free online access to the world. The key to this Market Determinative framework would be a tender-bid process, where the total cost to make a given journal OA would rest on the price per article (determined by its “quality”) times the number of articles published. Fundamentally, the value proposition relies on libraries
and institutions exerting leverage on behalf of the authors to incentivize publishers to take on this new model in exchange for funding guarantees (ibid.).

Advantages
Clearly the SCOAP3 approach proposes innovative changes to the scholarly landscape that would have many advantages and, as such, would be far more ambitious than working within existing hybrid OA models, given that its chief aim is immediate full scale OA adoption. By linking journal quality and journal price and, at the same time, price and volume, it lays out a path that fundamentally alters a scholarly communication system and effectively moves it into an arena of open competition (ibid.). Furthermore, by operating through an open, community based pricing and by tendering bids for publication rights, the SCOAP3 approach would focus attention on costs at all levels of the system that would provide for a much more accountable and transparent system than the present one (including hybrid models). Unlike current library consortial negotiations with publishers that can be inhibited by non-disclosure clauses, the SCOAP3 model provides truly open pricing models and negotiations within a community based setting. Finally, it is at least conceivable that the SCOAP3 approach, with its tendering process and the weight of the researcher community behind it, will lead to reductions and possibly stabilization of pricing (at the article and ultimately the journal level) over time, though this is mostly untested at present.

Challenges
The first impediment to the adoption of a Market Determinative Approach would be overlap and confusion with the publishers’ existing commercial OA programs. It is likely that many publishers would be resistant to the superimposed pricing models that would conflict with their existing OA programs. The American Physical Society’s (APS) Executive Committee identified this rationale as the reason for its decision to pull out of the SCOAP3 project in June 2013 (APS 2013). Moreover, scaling up the SCOAP3 methodology to encompass the much broader range of disciplines offered by any one large publisher would result in a number of critical challenges. On one hand, it is difficult to see how the commonality of interest expressed by High Energy Physicists under the CERN standard could be replicated across a large swath of disciplines. On the other hand, in order to meet the commitments to pay all APCs required by SCOAP3, consortia would need to scale negotiations to a sufficient degree (provide enough guarantees through author publishing fees) to enable enough full-scale buy in from publishers to transition hybrid publications to full OA. Finally, the complexity of the Market Determinative Approach in calculating the costs per article and per journal across all humanities, social sciences, and sciences disciplines for a single publisher would be overwhelming and unworkable. The problem of complexity would be further compounded for library consortia by the problem of ‘representational authority’. Having any single library consortia, particularly smaller or regionally based ones, represent the entirety of their institutions’ authors’ interests across all disciplines would in all likelihood be impractical and not feasible.

CONSORTIUM DISCOUNT APPROACH
An alternative to the Market Determinative approach would be to directly engage publishers in negotiations on their own terms within their existing OA business models. This approach would see library consortia build on their current business relationships with commercial publishers, and, in many cases would likely be tied to the continuation of current consortia licenses for ejournals. This practicality is predicated on the assumption that many of these same licenses include the targeted hybrid journals in question. A Consortium Discount Approach, which could be developed through a number of sub-variations (as outlined below), presents an alternative that is intended to be both immediate and practical. It would rely on the current mode of business relationship between library consortia and the publisher communities. This approach to negotiating all costs associated with electronic journal content of a single publisher would have as its aim to square the circle on the feedback effects of increased OA publication rates within hybrid journals and overall licensing costs incurred by libraries.

As has been the pattern with the pilot license programs between Springer and the California Digital Library and others, negotiations by consortia to lower the costs of APCs of commercial hybrids would need to proceed on a publisher-by-publisher basis to be operationally achievable. As with all negotiations, there would be numerous moving parts, including: annual increases to the license, member base or core subscription costs, structure of licensing terms (e.g. historical spend, usage-based pricing, etc.), discounted costs for unsubscribed journal content and length/term of agreement. In its simplest form, the Consortium Discount Approach for APCs would propose to essentially add one more element to the negotiation of an existing electronic journals license. Whereas the central focus of most re-negotiations in the recent past for
consortia remains the base annual increase (Perry 2009), it is possible that adding this additional dimension to the conversation over license costs could provide additional negotiating room for all parties, while advancing the OA agenda within hybrid journals. The central question for the Consortium Discount Approach is this: how would a library consortium develop a proposal to calculate a discount on APCs in affected commercial-hybrids? We will look at three possible approaches: straight discounting, group program membership discounts and discounting to target APC rates.

**STRAIGHT DISCOUNTING**

A first approach would be to entertain proposals and counter-proposals on a specified discount level. This strategy would negotiate to set discount for APCs for all authors who are affiliated with member institutions within a consortium. While the simplest and most straightforward, this approach would lack any objective or quantifiable basis, other than to reduce costs; e.g. the starting/ending points of the negotiation would be to essentially 'pick a number' and work towards an agreement.

Aside from this kind of straight discounting, it could also be possible to employ measures based on analyzing past performance on discounting by a consortium, either with the specific publisher or across an aggregated sample of publishers over time, to arrive at an historical average-to-list discount figure. This could be accomplished by using a standard comparison test that analyzed the current total list cost of subscribed journals within a continuing license and comparing this to the actual average costs paid by a consortium on behalf of its members. The challenges of using list price as a meaningful indicator of true cost were noted earlier in this paper. For the purposes of
establishing a variance between a list and a discounted price for publisher offerings, and, in the absence of any other data or fixed starting point, it is here asserted that historical performance in negotiated discounts could serve at a minimum as an effective starting point despite such reservations. As an example, according to the CRKN Member Benefits statement provided to the author’s home institution, an estimate for composite average level of discount-to-list price at a macro level for the year 2012 ranged from 20-40% (CRKN 2012).

GROUP PROGRAM MEMBERSHIP DISCOUNTS

This strategy would see library consortia engage with publishers on the acquiring of a ‘meta membership’ that would cover all participating institutions and entitle scholars who publish OA to the agreed upon discount. This option is currently available to individual libraries through BioMed Central (now owned by Springer), Taylor and Francis and Wiley at the individual institution level. Specific discounts are enabled through payment of a fixed membership fee or through pre-payment of APCs, with rates typically ranging between 10-15%. It is possible that continued participation among members of a consortium in existing license (such as a Big Deal) could be put forward as a substitute for payment of membership fee and thereafter entitle members to the standard program discount. Under this regime, and given the very significant revenues involved in large consortial Big Deal licenses, it would be reasonable to expect and negotiate towards higher scaled discounts. In his recent paper, Verhagen suggests a similar approach to establishing ways to tackle higher costs for Gold OA in research-intensive countries and institutions:
… the license that gives (toll) access to the journal or package will include a clause that allows researchers employed by the licensee to publish their articles and contributions for a heavily (75 – 90 %) discounted APC in that journal or package (Verhagen 2013, 54).

In fact, variations on this approach have been adopted in at least two recent consortia license re-negotiations. Within the renewal of the Sage Premier license by JISC in their NESLi2 license, the publisher offered a trial program to all researchers to publish in Sage Hybrid OA journals in exchange for significant fee reductions. Another example comes from the recent license agreement between the CRKN and Canadian Science Publishing (publisher of the NRC Research Press journals) where authors at affiliated member institutions would be permitted to publish in OA hybrid journals at a 50% discounted rate ($1,500 instead of the list price of $3,000). In both instances, the relative sizes and jurisdictions of the two consortia (being national in scope) provided attractive partnership opportunities for publishers in exchange for discounts.

DISCOUNTING TO TARGET APC

A third approach that could be utilized by a library consortium in negotiations would be to gather the various studies and analyses on OA publishing costs to date (including those of Björk, Finch, Houghton and the SCOAP3 project) to arrive at what a consortium believed to be a reasonable fixed point or range of APC costs. Once these ‘target APC’ cost thresholds were established, a consortium could then use such figures to determine appropriate target discount rates scaled for each targeted publisher’s APC costs (e.g. the higher the current ‘list price’ for APCs relative to the consortium standard,
the higher the discount rate that would be targeted for discount). See Table 3 as an illustrative example.

### TABLE 3 - APC Rates Calculation

<table>
<thead>
<tr>
<th>Study</th>
<th>Target APC</th>
<th>Publisher A APC</th>
<th>DIFF. +/-</th>
<th>DIFF. %</th>
<th>Publisher B APC</th>
<th>DIFF. +/-</th>
<th>DIFF. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bjork and Solomon</td>
<td>$906</td>
<td>$3,000</td>
<td>($2,094)</td>
<td>-70%</td>
<td>$2,700</td>
<td>($1,794)</td>
<td>-66%</td>
</tr>
<tr>
<td>Finch</td>
<td>$2,320</td>
<td>$3,000</td>
<td>($680)</td>
<td>-23%</td>
<td>$2,700</td>
<td>($380)</td>
<td>-14%</td>
</tr>
<tr>
<td>Houghton (basic overlay)</td>
<td>$1,800</td>
<td>$3,000</td>
<td>($1,200)</td>
<td>-43%</td>
<td>$2,700</td>
<td>($900)</td>
<td>-33%</td>
</tr>
<tr>
<td>Houghton (e-Only OA)</td>
<td>$2,438</td>
<td>$3,000</td>
<td>($562)</td>
<td>-23%</td>
<td>$2,700</td>
<td>($262)</td>
<td>-10%</td>
</tr>
<tr>
<td>SCOAP Average</td>
<td>$1,660</td>
<td>$3,000</td>
<td>($1,340)</td>
<td>-44%</td>
<td>$2,700</td>
<td>($1,040)</td>
<td>-39%</td>
</tr>
<tr>
<td>Average:</td>
<td>$1,825</td>
<td>$3,000</td>
<td>($1,175)</td>
<td>-41%</td>
<td>$2,700</td>
<td>($875)</td>
<td>-32%</td>
</tr>
<tr>
<td>Median:</td>
<td>$1,800</td>
<td>$3,000</td>
<td>($1,200)</td>
<td>-43%</td>
<td>$2,700</td>
<td>($900)</td>
<td>-33%</td>
</tr>
</tbody>
</table>


All figures converted to USD at 2011 average annual exchange rate. GBP to USD = 1.60

In this approach, a consortium could conceivably pick one level of APC as the most credible, and pursue negotiations accordingly, or the consortium could choose to average out the identified cost levels across a range of studies. This method would have a lot of resonance with the SCOAP3 based methodology on costs, determining what was fair and reasonable in a community’s ‘willingness to pay’. Like SCOAP3, the target APC method would then seek to normalize the existing commercial APC rates towards this fixed point.

DISCUSSION
A key question to be considered about a Consortium Discount Approach is whether lost revenues through discounted APCs would simply be made up in larger annual increases to licensed content? The question of whether it is possible to corral all costs paid to a publisher for subscription-based and hybrid content is difficult to predict and answer definitively. However, what can be said at present is that there is no effective method to link the payment of APCs for hybrid journals (for authors within a jurisdiction) and the costs associated with ejournals licenses for the same commercial publisher. Linking the costs of commercial-hybrid APCs to the re-negotiation of larger consortium licenses would create a structure within which a library consortium could effectively negotiate and exercise increased control over this market. As with all negotiations, priorities could be set by member institutions to provide an appropriate level of give and take. Another key consideration arising from the Consortium Discount Approach would be to ascertain whether publication activity levels would affect discounts levels. It is possible that varying levels of discounts could be negotiated and tied to tiers of activity to effectively scale discounts. However, given the unpredictability of future publication rates from within the consortium’s member institutions, such a future focused performance scheme would likely be unwieldy and impractical.

Advantages

Publisher Receptiveness - The above proposal for the Consortium Discount Approach would have a number of distinct advantages. The first and most obvious would be publisher receptiveness. Working within the existing publishers’ economic models and relying on existing negotiations relationships and scenarios would ensure faster, more
direct and timely negotiations. This assumption is confirmed by the survey of publishers conducted by the author in the summer of 2013 in which all publishers polled indicated that they were “Somewhat Willing” or “Willing” to negotiate with library consortia on this issue. In addition, given that consortia would be engaging the publisher community on a one-by-one basis, it is conceivable that each negotiation could be tailored to treat individual publishers differentially based on specific requirements and features within the license; this factor would avoid the ‘one-size-fits-all’ problem associated with SCOAP3 where commercial-hybrid OA costs are negotiated outside other relevant and compounding factors. Most compellingly, as noted elsewhere in this paper, there are existing examples of current licensing partnership initiatives between library consortia and publishers that include APC rates as part of current ejournal licenses.

FIGURE 4 – Vendor Responses on Negotiating APCs

Vendor Survey on Negotiating APCs

Question: Would your company be willing to engage in negotiations with library consortia over OA Author Processing Charges (APCs) for member institutions? Unlikely
While many negotiations scenarios can be fraught with conflict, there also exists within this proposal the possibility for a partnership that could prove mutually beneficial. An example of this would be to develop a consortium sponsorship program for publications within a given publisher’s OA program, thereby creating some further momentum towards a positive conclusion of a license re-negotiation. In addition, any downward pressure on costs would likely have some positive effect on publication uptake based on the assumption that cost is one of the central barriers to adoption of Gold OA publication. Finally, in an era where OA mandates are increasingly common and likely to spread, publishers may well see the value proposition of providing lower, more attractive APC rates in order to compete more effectively with their industry counterparts in attracting authors.

Cost Constraint and Cost Alignment – While some downward pressure on APCs for hybrids would likely result from sustained negotiations, any definitive conclusion on cost savings would be speculative. Past experience illustrates most consortia participants see demonstrated value and significant discounts. Anderson’s theoretical modeling on consortial cost sharing yielded average discount distributions of between 10-18% using the most equitable cost model (Anderson 2006). As noted earlier, the CRKN Cost Savings metric for the author’s institution yielded much higher overall rates, in the range of 20-40%. The recent examples of the JISC NESLi2 Sage and CRKN licenses demonstrate concretely that significant inroads could be made in dampening down APC costs within a consortial framework.

The Consortium Discount Approach takes into account both the costs of subscription-based content and OA scholarly information as represented by APC costs.
Negotiating these total costs with publishers would address the fundamental problem of how to ensure the ‘pass-through’ of savings for consortial licensed electronic journals arising from increases to OA publication through determination and application of discounting. In this sense, this approach would provide better recognition of the true costs paid by libraries and their institutions in terms of access to scholarly resources.

Better Leverage in Negotiations – By linking the costs of large, often multi-year electronic licenses to achieve more favorable APCs, greater leverage could be exerted in negotiations. The significance of this linkage should not be underestimated when one looks at the investment in time and resources put into play by library consortia, their members and the publishers. Further, by shifting the leverage point from the researchers themselves towards the institutional level (as represented by libraries), it is arguably more likely that this approach would work across a much broader swath of disciplines and scholarly communities. Leverage would therefore not be dependent on the coordinated will of the communities to take specific action to create the needed leverage to achieve buy in (including threat of boycott) from specific publishers to underpin negotiation demands. As with any business relationship, the imperative to maintain and grow revenue streams for any commercial entity is paramount.

Practicality – By relying on existing structures and practices, the Consortium Discount Approach can be implemented and moved forward in relatively short order. When compared to the SCOAP3 approach, which has been evolving for a period of at least 5-7 years, the time horizons involved with this strategy are significantly more attractive. Library consortia could realistically make significant traction on the advancement of OA aims (noted in the Finch Report and CRKN OA Working Paper) in
the short and medium terms by making use of existing negotiations relationships and existing negotiations time horizons and infrastructure. Moreover, gains made in OA APCs could provide additional rationale and advantages to sustain Big Deal licenses in a time when such arrangements are under significant scrutiny and threat of cancellation.

Challenges

*Buy-in from Scholars and Institutions* - The single biggest obstacle to successfully negotiating fees for OA programs would likely be resistance from vocal proponents within the OA community itself. Where only full transformation to Green and Gold (non-Hybrid) OA for scholarly journals is viewed as the measuring stick for success, proposals for engaging commercial publishers on their own terms can only be seen as half-measures at best, and propping up broken economic models at worst. Standard arguments against engaging with traditional subscription based forms of scholarly publishing inclusive of Hybrid OA tend to rely on general complaints about large profits being detrimental to scholarly communications and the donated nature of academics’ labor (Odlyzko 2013). Peter Suber, chief-spokesman of the OA movement, has consistently denounced hybrid journals as not truly part of the OA movement because they still rely on subscription fees (known as ‘double dipping’), and, as such, publishers are not incentivized to move to full OA publication models. His conclusion is that hybrids are not really helpful to authors or libraries and are mostly cynical attempts at promoting OA (Suber 2012). A series of articles published in the work *Debating Open Access* for the British Academy for Social Sciences and Humanities outlined a number of other potential objections from the scholarly community, including both ethical and practical
arguments against wholesale adoption of OA (Vincent and Wickham 2013). Specific objections are raised based on the threat to the continued survival of many scholarly societies under any OA regime (but particularly those founded upon the Gold model).

Lack of Systemic Change – At a system level, a second set of arguments follows closely on the first, namely, the Consortium Discount Approach essentially offers more of the same dysfunctional economic models and, moreover, would further entrench the significance of existing Big Deal licenses whose intrinsic value continues to be hotly debated and contested. Maskell (2008) noted in her survey of Canadian University Library Directors’ perspectives on consortia that there is this tension and potential conflict between consortia propping up larger commercial publishers via the Big Deal and the ability of these same consortia to effect positive changes to the scholarly communications paradigm. Schieber (2009) has consistently argued against inclusion of hybrid OA journals within his ‘compact’ model for publishers to transition journals to OA precisely because they still receive subscription funds and thus do not entail wholesale change to the system.

Another point of disagreement would likely be that any large scale approach to negotiating hybrid Gold APCs would appear to further reinforce preferences for Gold over Green OA publication. Concerns about this issue, and a corresponding de-emphasis on Green OA initiatives, were raised by a number of authors in response to the Finch report, including those of Harnad (2013) and Suber (2012). Moreover, this de-emphasis has been linked to claims that Green OA would likely be the target of de-investments as institutions and funders target scarce funds towards APCs and away from institutional repositories and allied services. Harnad goes further, stating that the
Finch report and the corresponding UK higher education funding mandates have several potentially perverse effects on the OA system, including raising green OA embargo periods, needlessly constraining authors’ choice of venue and increasing publishers’ profits (Harnad 2013).

*Costs of Gold OA* - In a follow up to their 2012 article *Going for Gold: The Costs and Benefits of Gold Open Access for UK Research Institutions*, Houghton and Swan advanced a further set of arguments to this objection, that is, that the economics of institutions unilaterally moving to Gold OA publications in the current environment (including both OA and subscription costs) resulted in net cost increases for institutions: “Universities adopting an all-Gold OA model for publishing their research results when the rest of the research community retains the current model … would find costs outweighing benefits in all cases” (Houghton and Swan 2013, 3). Verhagen also notes this trend, and estimates that for the Dutch university sector, overall costs would be higher in a purely Gold OA regime (Verhagen 2013). In like fashion, Schieber asserts that the adoption of the Gold OA path via hybrid journals fails the 4 criteria to establish OA primarily in terms of the last factor, that of cost and sustainability. This is because there are no mechanisms inherent in these policies to control the dramatic cost increases he believes are inevitable while hybrid publications collect both subscription and APC revenues (Vincent and Wickham 2013).

**CONCLUSION AND FURTHER DISCUSSION**

Taken as a whole, and comparing the advantages and disadvantages, the Consortium Discount Approach presents a feasible, scalable and straightforward method with a
good chance of success to both reduce the costs of OA publication in hybrid journals and advance the public policy aims of broadening access to scholarship. Through linking existing consortium business with hybrid OA programs, the original path that Prosser advocated as a mechanism for greater OA publication transformation becomes closer to reality. Though there are many criticisms of current hybrid OA models, scholars such as Verhagen note that it is absolutely critical to establish a connection between the two systems of accessing scholarly information (subscription and open access) if we are to contain the costs associated with Gold OA (Verhagen 2013). Consortia are uniquely positioned to establish this link. In addition, where library consortia are focused on the financial terms of scholarly information in a more comprehensive fashion, it would be hard to see how either the scholars or their parent institutions would actively oppose such an initiative, at least on a transitional and interim basis.

On the library side, using existing methodologies and negotiations leverage from consortia would help improve chances of success with financial targets while also opening up possibilities to shape hybrid OA programs in a more cooperative way. To address specific objections from OA advocates noted above, it is possible that the Consortium Discount Approach could be adjusted to include more favorable licensing terms, including specific provisions for Green OA such as entrenching author rights as a function of a model license. Gold hybrid costs have been raised as a persistent concern. Consortia have established a proven record of negotiated discounts from publishers and, as such, offer the only tested solution to date to address cost concerns. Finally, the Consortium Discount Approach fills a gap in the current publisher-library consortium
relationship. Rather than exploring the creation of wholly new organizations to undertake negotiations with publishers (as contemplated in SCOAP3), the preferred model posits taking advantage of current infrastructure and relationships to effect change in the short to medium term. In response to charges that negotiating hybrid OAs with publishers will reinforce current dysfunctional economics (lack of systemic change), it must be noted that such concerns are at least as problematic as continuing to pay subscription fees to commercial publishers, a practice that all research libraries currently participate in, with no realistic end in sight.

This paper has examined possible roles for library consortia in negotiating costs associated with hybrid OA programs with commercial publishers. The key conclusion of this paper is that library consortia, particularly those more highly integrated bodies (such as national consortia), would be best equipped to take on these roles and engage the publisher community. A survey of the literature on the costs of OA article publishing and commercial hybrid program offerings establish the likelihood of sufficient price variability in publisher hybrid OA APCs to facilitate effective negotiations. Of the two approaches to such negotiations (‘Market Determinative’ and ‘Consortium Discount’ respectively) examined, the latter was established to have a greater chance for success based on a series of factors: greater publisher receptiveness, better alignment of costs and negotiations leverage (particularly with larger consortia license renewals) and less complexity/greater practicality. Three variations on Consortium Discount Approach, straight discounting, group program memberships and discounting to target APCs, were outlined and variations on each were explored.

The paper also raises a number of questions. These include the following:
Would it be possible to negotiate more favorable rates or a partnership on APCs outside of a larger consortium license such as the Big Deal?

Would discounts extend to commercial hybrid journals that are excluded from a Big Deal license?

How would discounts extend to commercially published journals that are fully open access?

These questions are in themselves worthy of further study, though some would potentially only be answerable once consortia had begun to negotiate or had successfully completed negotiations with publishers on hybrid APC costs.

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NOTES

1. Though potentially controversial, estimated figures compiled in 2011 and published in 2013 claim that 48% of published articles from 2008 were openly accessible and
that the ‘tipping point’ has been reached in the US and European Union countries, where more than 50% of all research articles are OA (Archambault 2013).

2. The Finch Report was commissioned by the government of the United Kingdom to examine and make recommendations for public policy and to inform the funding activities of Higher Education Funding Councils. The Committee that wrote Finch included stakeholders from a wide spectrum of society, including government, higher education and research sectors and publishing communities. Recommendations were released in 2012.

3. For an excellent recent analyses focused on the UK Higher Ed system, see: Houghton and Swan (2012).

4. Some notable examples of pilot agreements with Springer include the Dutch consortium of university libraries (UKB) in 2007, the Max Planck Institute in 2008 and the CDL as part of their renewal with Springer in 2009.

5. Cryer and Grigg posited that if consortia deals were less attractive over time, their survey would show an increase in non-renewals for licenses. Analysis of respondents indicated that this was not the case, and that “…either the deals this renewal cycle were satisfactory to the consortial members or consortial members felt a strong enough commitment to the consortial model to continue purchasing collaboratively” (Cryer and Grigg 2011, 30).

6. Strieb and Blixrud note in their 2012 survey of large-publisher bundles that the subscription rate for the 7 largest bundles remains very high and that, while the overall uptake on the largest bundles has increased, the proportion of library
licenses managed by consortia has remained remarkably stable (Strieb and Blixrud 2012).

7. Since the downturn of 2008, 52% of ARL library budgets were either flat or declining and, accounting for inflation, 72% of budgets have reflected reduced access to information due to loss of purchasing power (Lowry 2013).

8. Houghton includes the following in overlay services for OA articles: operations of peer review management, editing, production and proofing and hosting services. (Houghton 2009).

9. In conversations with CRKN staff, it was noted that determining precise discounts over list costs would be an exceedingly difficult task for a host of reasons. These include the fact that the original discount is often realized early in the life of a multi-year license and that the list price assumes a single institution, while the cost within consortia is a result of group purchasing adjusted for scale of participation. Further complications arise from cost calculations to members, such as internal cost sharing, impact of external funding and the effects of moving from one cost model to another.


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