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Price and Cost Indexes as Instruments of Budgetary Planning

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1. Introduction

In times where the spending power of academic libraries is continuously sinking and the supply of literature seems increasingly endangered,[1] price and cost indexes are becoming ever more important as bases for assessing budgetary needs and budget extrapolation.

In the following, a few thoughts regarding the problem of price and cost indexes with special reference to the situation of academic libraries in West Germany will be presented.[2] The requirements for price and cost indexes as instruments of budgetary planning are determined on the basis of goals of budgetary planning; we must differentiate between three types of indexes. I want to examine to what extent price indexes of the literature production of the Federal Republic of Germany can be used for budgetary planning by academic libraries here and abroad. Based on the present situation, prospects for future developments of price indexes will be discussed. Finally, the function of cost indexes will be discussed, particularly in view of the context in which price and cost indexes are to be found. These thoughts are all in all aimed at the development of methodical instruments that enable us to find the basis for the budget extrapolation of academic libraries using a broad, well-founded statistical substratum.

2.1 Budgetary planning

It is the first and foremost task of budgetary planning to examine spending and costs on the basis of the statistics available on the acquisitions made by the respective library within a period of several years. The interpretation of such statistics must take into account price increases, expansion of literature production as well as the influence of currency fluctuations. Based on this analysis, a projection of future costs is made by taking into account the total budgetary needs as well as budget extrapolation.

As individual subjects are affected by price increases in varying degrees, budgetary planning is faced with the problem of creating a financial framework for an acquisition policy, which, on the one hand, is committed to maintaining continuity in building up a certain collection and on the other hand is committed to keeping a balance between the different subjects. This problem is particularly aggravated by the fact that budgets have been stagnating. In the context of uni-

versity libraries this always touches on the subject of budget allocation. Allocation is based on traditional quotas which have developed from local allotment practices or on allocation models which are characterized by a large degree of transparency, as they identify parameters and weighting factors. As wide as the range of the parameters may be, particular weight is given to literature production and average prices of subjects - this characterizes the so-called literature-size approach. It is therefore the task of budgetary planning to do justice to changes in the subject-specific average need when updating both of the parameters on the basis of price indexes.

Budgetary planning must furthermore control the relation between fixed costs for periodicals and serials and the possibility of acquiring monographs. In spite of the fact that subject-specific threshold values must be calculated individually, it must be a predominant task of future-oriented acquisition planning to keep fixed cost rates for the individual subject within certain limits to the benefit of monograph acquisition. An analysis of the price development of different forms of publications is imperative.

2.2 National price index

Buch und Buchhandel in Zahlen (BUBIZ)

Buch und Buchhandel in Zahlen (BUBIZ) - published annually by the Börsenverein des Deutschen Buchhandels - covers the development of book production and prices in the Federal Republic of Germany including Berlin (West). Even though BUBIZ does not provide index values but is limited to recording annual data regarding book production and prices, it is, nonetheless, by definition of the Draft International Standard ISO/DIS 9230, the base value for a national price index "that reflects the price development of the production of a specific physical medium in a country".[3] It is the titles listed in the *Wöchentliche Verzeichnis* der *Deutschen Bibliographie* for the corresponding year which serve as a base value, BUBIZ, however, exclusively takes into consideration publications available in the book trade.

Since the annual report of 1982 BUBIZ has been listing title production using the classification system of the *Deutsche Bibliographie*, that is, a 65-step classification system. Thus BUBIZ is able to offer a more differentiated insight into subject-specific title production. Within the individual subject categories first editions and new editions as well as the German *Taschenbücher* are identified separately. Titles with less than 49 pages, which make up about 20 % of total title production, on the other hand, are no longer listed separately.[4]

Based on total production, BUBIZ reflects price developments by identifying average retail prices and average book prices divided by one-sixteenth of the number of pages (Durchschnittsbogenpreis) for each subject. Consequently, average prices refer to the total sum of titles available in the book trade, meaning

scholarly literature and academically irrelevant titles, as well as *Taschenbücher* and titles with less than 49 pages. Moreover, BUBIZ provides information on the price structure for the 65 subject categories by identifying distributional percentages with regard to subject-specific book production with the help of 7 categories ranging between 5,- DM as the lower limit and 100,- DM as the upper limit.[5]

Assessment of BUBIZ

If one assesses BUBIZ by looking at the degree in which the national price index can be used for budgetary planning by academic libraries not only in the FRG, one must first of all state that BUBIZ comprises all of literature production sold by the book trade, but does not take into account publications outside the book trade.

With regard to the base value of BUBIZ it must be said that although it is the national library listings of the *Deutsche Bibliographie* which provide the basis for BUBIZ, one has to reckon with certain statistical distortions. In 1986 - in contrast to former years - the Deutsche Bibliothek was able to list all the titles which were handed in almost completely in the *Wöchentliche Verzeichnisse*, including less important and lower-priced titles to a greater extent. This led to a remarkable decrease of the total average price by 22 % in comparison to the year before.

The analysis of the data material prepared by BUBIZ, which comprises about 15-18 % of the total volume of publications available, offers basic values with regard to the development of West German literature production. When planning the budget and allocating funds - e.g. when changes occur in the subject-specific share of total production - these values, of course, can only be used by academic libraries under the proviso that they include academically irrelevant titles. With regard to the analysis of literature production, BUBIZ proves to be superior to the US-titles statistics in *Bowker Annual* and *Publishers Weekly*[6] because of its subtler differentiation.

Due to the fact that non-scholarly materials are included in the BUBIZ price lists, the value of the average prices becomes relative. In many subjects, particularly in those where the portion of non-academic literature is traditionally high, average prices cannot be used as a tool for budgetary planning. Their value is also reduced by the fact that the average retail price and the average price divided by one-sixteenth of the number of pages are no longer separately indicated for *Taschenbücher* and "Other titles". In this respect BUBIZ does not offer the content of information provided by the US-Price Statistics in *Bowker Annual* and *Publishers Weekly*.[7]

Considering the fact that BUBIZ differentiates between 65 subject categories, it must also be said that in order to be able to determine certain tendencies in price development for individual subjects, a volume of titles is required that is

not strongly affected by random influences. If the total number of titles in one subject is below a certain limit, the publication of a few, high-priced titles may - in certain circumstances - effect an increase in prices, which does not reflect a real tendency and therefore permits no prognosis.

Finally it must be pointed out that BUBIZ - regardless of some basic restrictions - is not very useful when planning the current budget as its publication takes place in autumn of the year following the year under review.

If BUBIZ is compared to the ISO/DIS 9230, certain differences, particularly on two points, become apparent. BUBIZ, on principle, does not take into account publications outside the book trade, according to the ISO/DIS 9230 though, these are not excluded. There is another difference which regards the classification system. The ISO/DIS 9230 is based on the 25-subject classification system of the UNESCO Subject Classification, whereas BUBIZ identifies 65 - albeit to a large extent comparable - categories.

2.3. Price index for academic literature

The problem of defining an outline of academic literature

The possibility of evaluating BUBIZ - or other national price indexes - for the purpose of budgetary planning and budgetary needs assessment in academic libraries is particularly reduced by the fact that not only academic but also non-academic material and therefore price development of overall book production is documented. A price index for academic literature requires a definition of its outline when seen in the context of overall production. This brings up the question of defining the terms *academic literature* or *academically relevant literature* - a question which is not posed by the ISO/DIS 9230. Without being able to discuss the problem of definition in detail here, it can be said that a definition which is oriented toward the idea of what is also termed *funktionaler Wissenschaftsbegriff* (*functional scholarship*) should serve as a basis for this definition. The definition should - in concurrence with Pflug's - provide a concrete outline of the acquisition profile of academic libraries. According to his definition, academic literature is not only the "Produkt wissenschaftlicher Tätigkeit", but everything that "wissenschaftlichen Arbeitsprozeß bedingt, beeinflußt, was von ihm an literarischer Konkretisierung benötigt wird".[8] Although one has to concede that even if precisely defined criteria are used, certain imprecisions in marginal areas are unavoidable, it is nonetheless possible to define literature which is a potential object of acquisition by academic libraries as part of overall production.

Using data material provided by library suppliers: the LISU-Indexes

Although for a long time there has been a demand for the development of price indexes of academic literature for individual places of publication, price

indexes are so far only available for Great Britain and the U.S.; these price indexes record price development of academic monographs.

Since 1974 the Centre for Library and Information Management (CLAIM) at Loughborough University has been publishing an index, which, on the basis of the British National Bibliography, shows price development of academic books in Great Britain. Because of the high portion of titles without listed prices, whose exclusion from the index made average prices appear far lower than they actually were, it was decided to base the index - from the year under review 1985 onward - on the data provided by Blackwell's Oxford, which comprises an annual total of about 10,000 titles. Since 1987 the index, which is compiled by Mann, has been published by the Library and Information Statistics Unit (LISU) at Loughborough University. Parallely to this index, a price index for academic literature of the U.S.A. has been published since 1986. It is based on the data provided by Blackwell North America and comprises an annual total of about 20,000 titles.[9] Both LISU-Indexes reflect - to the exclusion of imported titles - the price development of academic literature production in both places of origin and offer some valuable information for budgetary planning and budgetary needs assessment.

German Academic Book Price Index (GABPI)

In contrast to this, mention must be made of the fact that no statistical data is available concerning the production of academic literature in the FRG which would provide information about the volume and development of titles, about price structure and increase - valid for individual subject areas as well.

After the first attempts during the 1950's and 1960's to determine the share and price level of academic literature, Scheib and Erpf made a comprehensive analysis of literature production at the beginning of the 1970's.[10] According to this study, the share of academic titles, a figure that varies greatly from subject to subject, came to 50 %. Apart from providing necessary information for the purpose of budgetary planning and allocation, the study provided a detailed insight into the structure of academic literature production. Since then, however, the academic book market, particularly in the areas of the humanities and the social sciences, has undergone fundamental structural changes, to which attention was drawn not least thanks to Fabian.[11] It is a change that manifests itself, among others, in the fact that literature production is characterized by an increasing proportion of dissertations that appear in publishing houses. Taking this into consideration, the analysis of academic literature production in the FRG becomes a pressing desideratum at the beginning of the 1990's.

As shown by both LISU-Indexes, the use of data from important library suppliers basically proves a methodically convincing starting-point for a price index which refers to academically relevant literature and which records the price

development in the respective country of origin on the basis of the publishers' original price in original currency. By doing so, it avoids distortions of statistical data caused by the inclusion of imported titles or the effect of currency fluctuation.

Harrassowitz generously supplied the data of their German Approval Plan for the development of a price index for German academic literature.[12] Since 1988 the German Academic Book Price Index (GABPI) for German academic monographs has been available. This index, which was first published in the 1988 *Bowker Annual* for the year under review 1987 and retrospectively for the period until 1984, shows price development based on DM-prices by using the statistical values for an annual amount of about 20,000 titles.[13]

The Index differentiates between 30 subjects according to the LoC-classification and a group of "unclassified material", which basically comprises literature for specific acquisition programmes, whose academic relevance is often limited. In the revised edition of GABPI in the 1989/90 *Bowker Annual*, the category "unclassified materials", which amounts to approx. 25 % of the total amount of titles, is not included. The GABPI subject statistics is not fully compatible with the classification of the ISO/DIS 9230. One has to take into consideration, however, that at Harrassowitz's itself, titles are categorized according to a much subtler subject classification system.

Corresponding to consumer expectations, the German Approval Plan and thus GABPI do not cover the FRG alone as place of publication but cover the entire German-speaking areas and German cultural areas, i.e. the GDR, Austria and the German-speaking region of Switzerland. It thus deviates from the country-of-origin principle. According to a statement made by Harrassowitz, a coding according to the place of publication will take place in the future so as to create the basis for a more complex evaluation.[14]

One criterion for assessing GABPI correctly, is the essential question of whether it comprehensively covers academic literature production. If one examines the GABPI accordingly, one has to start from the definition of the selection level "comprehensive", which, in contrast to the other two levels "selective" and "representative" of the Approval Plan, lays down a comprehensive selection of literature. Nonetheless, even the "comprehensive" level does not include all of the academically relevant literature. Academic introductions and textbooks are at best included on this level in a very selective manner; in many cases they are not taken into account at all. It must also be said that by a number of subject groups, such as medicine, law or engineering/technology the "comprehensive" level is never reached.

The titles on which the GABPI is based, therefore represent, according to each subject area, a more or less comprehensive selection of academic literature, which is oriented toward the demand of North American libraries. It does not,

however, cover the range of academically relevant literature acquired by German academic libraries.

Although the GABPI - in contrast to the LISU-Indexes - is based on data which comprise only one, albeit broad selection of academic literature, the Index nonetheless offers valuable insights into the price structure of academic literature. This is particularly true when considering the fact that statistical data regarding academic literature production in the Federal Republic of Germany is not available. GABPI gives also proof of the limited value of the prices indicated in BUBIZ for budgetary planning and budgetary needs assessment of academic libraries: according to GABPI the average price in 1988 was c. 75.- DM whereas, according to BUBIZ, it was c. 28.50 DM.

If one evaluates GABPI for the given period reported with an eye to the development of literature production and book prices, it soon becomes apparent that one must not necessarily conclude from the changed number of titles listed in the Index that there is a corresponding development in the production of literature. It is rather the case that quantitative changes on the supply side - and this is true for individual subjects as well as for the entire production - reflect a changed demand situation. Thus an interpretation of price development must always take into account that changes of the average prices may be caused or at least influenced by developments in orders booked and thus by the supply structure.

The analysis of the GABPI, which, if one chooses to disregard the studies made during the 1970's, for the first time offers statistical data on the academic literature production of the FRG, shows very clearly that library suppliers' databases may only under certain circumstances be used as a basis for price indexes of academic literature. One of the requirements is a supply of titles independent of fluctuations in demand, a supply which covers academic literature production of a specific place of publication as completely as possible, using constant selection criteria. It can thus record price developments on the basis of factual changes in the production of literature. It becomes evident that an index based on a "card-approval system" (Zetteldienst) will be more likely to meet these requirements than an index based on the data of an approval plan. This is something that should be taken into consideration when further developing GABPI.

Price indexes for academic periodicals

A price index for academic periodicals is available for the U.S.A. The price development of US-periodicals relevant for academic libraries is registered by the US-Periodical-Index (USPI) and the US-Serial-Service-Index (USSSI),[15] which is annually published in the *Library Journal* by the Library Materials Price Index Committee of the Resources and Technical Services Division of the American Library Association. It is based on data provided by Faxon, which has been

publishing its own index since 1972.[16] The USPI shows price development on the basis of c. 3,700 periodicals in different classification systems according to subjects.

While the USPI is exclusively based on US-periodicals, the periodical index by Blackwell's, annually published in the *Library Association Record*[17], is based on a selection of c. 2,000 academically relevant periodicals from different places of publication. The fact that price development is presented on the basis of pound-prices, considerably reduces the value of the index for libraries outside Great Britain. The Index can merely serve the purpose of an analysis of global price development of academic periodicals published in Great Britain.

With the exception of an index for law periodicals,[18] there is no price index for academic periodicals in the FRG. BUBIZ merely presents a compilation of data taken from the press statistics of the Statistische Bundesamt (Federal Bureau of Statistics), which records the number of periodical titles, according to different types of periodicals.[19] Among others, "Fachzeitschriften mit überwiegend wissenschaftlichem Inhalt" (subject-related periodicals of mostly academic content) are recorded, which are divided into 6 subject groups. The information given restricts itself, however, to the respective number of titles, average prices are not listed.

When developing price indexes for periodicals which record price development in the country of origin, based on the publisher's original prices in original currency, it is recommendable to use data material provided by library suppliers - in this case subscription agencies. Another important aspect to be taken into consideration when conceptualizing periodicals indexes is how the importance and circulation of a periodical are weighted.

Prospects for future developments

The demand, already expressed in a 1977 LIBER-Project, for the creation of price indexes of academic literature for different places of publication[20] besides the national indexes, which reflect price development on the basis of overall literature production, has so far only been met in Great Britain and the USA. Statistical data on academic literature production, monographs and periodicals, are not available for other important places of publication.[21] This holds, at least in part, also true for the FRG. GABPI does offer an insight into the price structure of the academic book market, but relevant literature is taken into account only after a process of selection, which, of course, is subject to fluctuations from year to year.

Statistical data on academic literature, which provides information of title volume and prices as well as the developments in literature production and price increases - according to different subject categories - is an essential requirement for budgetary planning and budgetary needs assessment of academic libraries.

The development of price indexes for academic literature of important places of publication is therefore desperately needed. One will have to make greater efforts in the future to gather reliable and valuable data on the production of first and new editions and on the prices of academic literature that can be used as a basis for budgetary planning and budgetary needs assessment. When developing price indexes for academic literature, one will have to strive for a uniform concept in order to be able to ensure the value of such indexes for libraries in other countries. That is why the ISO/DIS 9230 is of such importance when norming and standardizing indexes.

It seems like a methodically convincing approach to base price indexes, which refer exclusively to academically relevant literature and which reflect price development for a country of origin by using the publisher's original prices in corresponding currency, on the data provided by important library suppliers or subscription agencies.[22] As was shown in the analysis of GABPI, the data provided by library suppliers can only be used under certain circumstances as a basis for price indexes of academic literature.

An alternative way of finding bases for a price index of academic literature is the right coding of academic literature during the process of recording it in the different national bibliographical centers. In this way a complete record - according to limits that need to be defined - of academically relevant literature would be ensured and it could, moreover, include publications outside the book trade. On the other hand it must be pointed out that besides the problems arising from a possible lack of price information there is another condition that has to be met: the literature would have to be processed continuously in the national bibliographies without substantial backlogs.

At present it is being considered at the Deutsche Bibliothek, whether and to what extent a definition or clear separation of academically relevant literature from overall title production could be carried out and whether this could serve as a basis of subject-specific price index of academic literature.

2.4. Cost index

2.4.1 Local cost index

Definition and methods

While national indexes and indexes for academic literature always document global trends of literature production and prices in the different places of publication, local indexes record the price development on the basis of individual acquisition profiles of individual libraries and thus record a specific segment of international literature production. Another basic difference between the two types of indexes is the fact that national indexes and indexes of academic literature, which are always based on publishers' original prices in the corresponding

currency, exclusively reflect primary price development. Local cost indexes, on the other hand, which are based on the final invoice totals also reflect, besides primary price increases, secondary price-determining factors such as postal charges, service charges, discounts, value added taxes, but most of all currency fluctuations, which may either compensate for or increase primary price increase rates.

Local indexes must reflect cost development according to subject and form of publication - at least according to monographs and periodicals. The local index can only include subjects which have an acquisition volume that largely excludes the possibility of being strongly influenced by random occurrences. The local index requires for recording modalities of the acquisition statistics to remain unchanged. Besides a constancy of statistical practices there needs to be a certain continuity regarding the premises for acquisition policy.

As soon as these premises undergo great changes and acquisition profiles are modified in content and shape, price development may even possibly turn into the reflex of a changed selection of titles. Thus, drastic budget cuts may bring about a clear increase or decrease of the average price, depending on whether acquisition policy is generally focussed on basic literature or whether the acquisition of high-priced titles is avoided as much as possible.

A change of the average prices of antiquarian acquisition, which is always subject to fluctuations, basically differs from the price development of the acquisition of first and new editions. It is only this that can be reflected by a local index which gives insight into price development tendencies. This means that statistical acquisition data on first and new editions as well as current periodicals has to be recorded separately from that of retrospective supplementing, inasmuch as it comprises a substantial acquisition volume.

Local cost indexes and other types of indexes

Starting point and basis for budgetary planning of any library is the exact analysis of subject-specific spending and cost development, which can be recorded by local indexes. The local cost index, which reflects linear tendencies of primary price development in the area of first and new editions and which reflects the overlying influence of secondary price-determining factors, makes possible a more differentiated interpretation of subject-specific cost development. It makes tendencies visible from which, given the necessary caution, prognoses can be made for the assessment of budgetary needs.

Local indexes, which record cost development on the basis of individual acquisition profiles, taking into account secondary price-determining factors of acquisition, particularly that of currency, and national indexes as well indexes of academic literature, which always refer to the literature production of a specific place of publication and the publishers' original prices in the corresponding currency,

complement each other in the information they provide. National price indexes and indexes of academic literature provide a framework within which local indexes based on the acquisition statistics of individual libraries find different expressions.
Optimal prerequisites for a comparative evaluation are computer statistics or the statistics of an automated acquisition, which enable the libraries to evaluate the data material in the necessary and more subtly differentiated way, particularly when evaluating information in a certain subject area according to different places of publication. The evaluation of price indexes for academic literature thus offers the possibility of using general tendencies observed for a particular place of publication - taking into account currency influences - for the interpretation of subject-specific cost development in a single library. This in turn makes it possible to found conclusions drawn from the acquisition statistics of a single library on a broader data basis or - if necessary - to modify these conclusions.

Local data provided by outside library sources, the Deutsche Bibliotheksstatistik

While the data of price indexes of academic literature proves quite useful for the interpretation and analysis of local cost indexes, it is questionable whether the same holds true for data provided by sources outside the library.
When data of other libraries is used for comparative studies, one has to be particularly careful to take into consideration the character of the acquisition profile of the individual library. The individuality of an acquisition profile, which shows many, often subtle differences regarding content and shape in one subject, is not only reflected in the average price but also in a specific price and cost development. Other important factors, besides acquisition methods in the area of foreign literature, are the different recording methods when creating acquisition statistics, such as the method of counting units of loose-leaf publications, fascicles and, in particular, non-book materials. All of these factors have to be taken into account when comparing average prices and index values. A comparative study must not least take into consideration certain differences regarding the classification of literature into different subjects. If all these aspects are disregarded, the evaluation of externally provided data, e.g. in annual reports, is a likely subject of erroneous interpretation.

Reservations regarding the transfer of average prices and index values of other libraries also apply to the *Deutsche Bibliotheksstatistik*. Average prices or the cost development of monographs and current periodicals in individual libraries may be determined on the basis of the given data by using a subject classification system comprising 41 categories that is compatible with that of the *Deutsche Bibliographie*. As no differentiation is being made between retrospective supplementing and first and new editions in the subject-specific statistical recording of monographs, the data of libraries which attach great importance to retro-

spective supplementing - particularly when building up a core collection - cannot be compared to that of libraries whose acquisition policy concentrates on first and new editions.

2.4.2 National cost index

Libraries base their requests for higher budgets when applying for appropriation on their own statistical acquisition data which documents cost development of literature acquisition for the respective library. The question arises of whether it would be useful to develop a national cost index, which reflects general tendencies of cost development of the acquisition of academically relevant literature while including secondary price-determining factors on a national level. An index, in other words, that would not only register primary price increases but also the influences of currency fluctuations.

The Library Acquisitions Price Index (LAPI), "Average Prices and Indexes for College and University Library Acquitions", the national cost index for the USA is a combined index. It combines the North American Academic Price Index (NAAPI) - based on the Approval-Plan data of Baker & Taylor, Coutts and Blackwell North America[23] -, the US-Periodical-Index (USPI) and an index by the Library of Congress of foreign monograph acquisition and weights the sub-indexes differently.[24] More convincing, however, seems the methodical approach of developing a national cost index on the basis of the statistical acquisition data of selected libraries.

Price indexes for academic literature represent indexes that are not weighted and in which all academically relevant titles of the specific place of publication are given the same weight - independent of actual demand by libraries - when determining average prices. A national cost index, based on the statistical acquisition data of academic libraries, displays, if one likes, a corrective - particularly important with regard to periodicals - as it attributes greater weight to titles that are in higher demand. In order to take this aspect into full consideration, the concept of a national cost index, which cannot be discussed in detail here, should not strive for a data basis that is as comprehensive as possible by basing it, for example, on the statistical acquisition data of libraries with special subject fields (as part of a programme started by the Deutsche Forschungsgemeinschaft) for its own main subjects. It is rather the selection of libraries that should ensure that the data basis comes as close as possible to the intersection of the purchase acquisition profiles of university libraries.

The local index which has been presented by the Staatsbibliothek Preußischer Kulturbesitz in Berlin since the year under review 1980[25] documents the price development of monographs and periodicals according to places of publication and subject statistics of the *Deutsche Bibliotheksstatistik*. It is a local cost index, which, because of its acquisition depth and range in most subjects, lays claim to

representing general tendencies of cost development and index values, so that these may basically be used by other libraries without any problems. An analysis of the index of monographs, however, in which the statistical basis for individual subjects is not indicated, reveals some conspicuous discontinuities on the subject level. These may possibly allow for the conclusion that premises of acquisition policies have changed; in any case, they stand in the way of a comparative evaluation of cost development tendencies. It can therefore be said that these index values cannot be used by libraries in the FRG without problems.

2.5 Conclusion

It must be stated that, with the exception of the indexes in the Anglo-American context, statistical data on the volume and the development of academic literature production, on price structure and price development are not available. In the FRG, as in other countries, we are also faced with the fact that there is no index which, on a national level, documents general tendencies of cost development regarding the acquisition of academic literature while taking into account secondary price-determining factors of acquisition. That is why libraries base requests for higher budgets on their own statistical acquisition data when applying for appropriation, without being able to point out indicators which place the individual libraries' budgetary request in a general frame of reference and thus objectify individual assessement of needs.

It is therefore of great importance to approach the subject of finding bases for assessing budgetary needs of academic libraries from two starting-points: there has to be one focus on the international book and periodicals market and another on purchase acquisition by academic libraries.

Price indexes of academic literature, i.e. monographs and periodicals, have to be developed for the most important places of publication, indexes which document the development of title production and prices. The supply of non-book-materials, which has become more important as part of the acquisition of academic libraries and is very much expanding in the area of publications on machine-readable materials, must not be ignored. Price indexes of academic literature, which register primary price developments in original currency, must be looked at in the context of exchange rate developments. The degree in which primary price increases are influenced by currency gains or losses has to be determined in reference to the corresponding place of publication.

Besides that, a national cost index should be developed, which, on the basis of the statistical acquisition data of selected libraries, documents cost developments regarding acquisition of academic literature. While price indexes of academic literature represent a category of indexes that are not weighted, titles on whose acquisition academic libraries focus, are given greater weight in a national cost index.

When conceptualizing both price indexes for academic literature and a national cost index, the fundamental question of categorizing subjects arises. Subject classification must, on the one hand, be planned in such a way that the index corresponds to subject-specific questions and demands that arise in budgetary planning particularly with regard to budget allocation. Too subtle a differentiation according to subjects, on the other hand, - regardless now of the difficulties that arise from attributing a title to different subjects - creates the problem of the index not reflecting real tendencies but random influences, which affect the subject level if the statistical basis is too narrow.

The indexes, which will have to be developed starting from two points, literature supply and purchase acquisition of libraries, will provide the basis for a differentiated analysis of the budget situation of academic libraries. Focal point of the study will be the development of proposals for budget rates for the ongoing acquisition budget. These will play a key role in the overall budget situation. The analysis is to assess the nominal budget extrapolation rate within the context of global data, of primary price increases, of the effect of currency fluctuations and the development of literature production, and, in the given circumstances, it is to determine shortages.

3. Prospects: price indexes and pricing policy of academic publishers

If price and cost indexes have so far primarily been used as instruments for decision-making in budgetary planning, the 1990's will see them fulfill another function: that of an instrument in the analysis of publishers' pricing policies.

The budgetary situation has worsened to such an extent that it will not suffice for academic libraries anymore to merely undertake greater efforts in fund raising. In the face of an escalating price development which has caused American colleagues to speak of the *information shock* in analogy to the *energy shock*,[26] libraries will have to get in direct contact with academic publishers on a national and international level. This will enable them to explain, in direct dialogue, the profound effects of a pricing policy that is solely geared toward maximization of profits. This dialogue presupposes, if it is not to exhaust itself in a non-committal exchange of commonplaces, some well-founded analyses of the price development of academic literature based on price indexes. Although the complex topic of "price indexes and pricing policy of academic publishers" cannot be discussed in detail here, I would nonetheless like to pose a few final questions.

If the pricing policy of individual publishers becomes the centre of attention, one must, first of all, make a comparative study of the price structure of the production of different publishers in certain subject areas. In doing so, one can no longer use the average price of titles or volumes, but has to introduce another quantitative criterion: the average price of page or book divided by one-sixteenth of the number of pages. This is particularly valid for a comparative analysis of

price development, as over-proportional increase rates for periodicals, for example, are often justified with an increase in volume.

The results from such a comparative study serve as a basis for an assessment of the pricing policies of different publishers, which are sometimes characterized by striking differences concerning average page prices and price increase rates. Particularly in the area of academic periodicals, the question arises of the connection between price increases, which are often much higher than actual production cost increases in academic publishing, and the monopoly of certain publishers in certain subject areas.

Dual pricing policy in all its forms, the fixing of different prices according to the purchaser's status - institutional or private - and the price discrimination according to geographical location of the library, proves a central aspect in the analysis of pricing policies by academic publishers. The policy of dual pricing, which plays an important role in the pricing policy of many publishers, particularly multinational groups, essentially represents a methodical problem for price indexes which are primarily developed in view of budgetary planning. In the area of academic monographs the price index, which refers to a particular place of publication, may be used by foreign libraries, provided that they are able to avoid exorbitant export prices in their acquisition policy. In the case of academic periodicals, however, foreign libraries cannot rely without problems on a corresponding index, as *buying around* depends on certain conditions in this area.

The analysis of the pricing policy of academic publishers would be incomplete if one did not take into consideration the different forms of dual pricing.

Based on well-founded studies of price development, such as the *Serials Prices Project* of the Association of Research Libraries (ARL)[27] - it has to be explained to those publishers whose pricing policy is solely geared toward maximization of profits that their thinking has serious consequences: price development, characterized by over-proportional increase rates, is bringing about a loss of purchasing power on the side of academic libraries, which massively endangers literature supply, the international circulation of research results and thus, finally, the possibility of bringing international research to the public eye. In the face of an increasing number of mergers and international interconnections in academic publishing, it seems imperative for libraries to co-operate to a larger extent on these problems on an international level, in order to be able to effectively oppose publishing groups that work on an international level. Studies of price policies of academic publishers on the basis of price indexes can only be effected on a larger scale if libraries work together on an international level.

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