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Are Libraries Worth Investing in?: Finnish University Libraries and their Effect on the National Economy

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Abstract

The paper discusses the correlation between the growth of the gross national product (GNP) of Finland and the library materials costs of the academic libraries during thirty years (1977–2006). Statistical data were used in the analysis and it was found that there is some correlation between the trends of these two. The paper discusses different possibilities for interpretation of this outcome, but the authors draw the conclusion that it is clearly worth investing in libraries as one tool to improve the knowledge economy.

Key words: investment; research libraries; Finland; statistics; GNP

Introduction

In keeping with a global trend, Finnish state policy has for some time emphasised the need to build a strong national knowledge-based economy. Universities are being restructured with the aim of renewing and strengthening the higher education system in Finland [Saarti, 2008]. Two tendencies are visible: improvement of preconditions for higher education institutions on the one hand, and merging or ending unproductive institutions on the other hand.

Also, there has been a notable demand for increased productivity of the university's service providers. What exactly is meant by that productivity is somewhat unclear, but at the very least it can be defined as a need to generate more from the same input. Thus productivity can be defined as optimising the economic input.

Library and information services are at the core of the work done at the university. The university's basic products usually are defined as degrees and research: the results of both of which can also be seen as documents, as different types of publications. Libraries also are an integral part of the production process of these publications [Huotari & Iivonen, 2005], because new knowledge and learning is always based on the work done by our colleagues and predecessors. This is why a library is needed in the university. Libraries offer information and knowledge already created, whether that is used as textbook reading or underpinning one's own research.

Statistics of Finnish University Libraries and Utilising them in the Evaluation

Statistics concerning the operation of university libraries have been collected already for about a hundred years in Finland, but there are only a few examples of the use of statistics. However, the possibilities for utilising the statistical data are excellent in Finland. The annual statistics of the university libraries are systematically collected in the joint statistics of the academic libraries. The present structure of Finnish research library statistics was developed in 1971 when economic data were added to the the tra-

ditional counting of books. Later on the statistics were developed further and the first international standard for library statistics, ISO 2789 [ISO 2789, 2006] was completed in 1974. The standard was renewed in 1991, 2003 and 2006 and the next renewal is expected in 2009. In Finland, ISO 2789 is well utilised, because 76% of the information collected in the joint statistics is defined in the standard.

The statistics of the university libraries have been available from the statistics database of academic libraries from the year 2002 on. The database is publicly available through the Internet. In the database, the annual statistics of Finnish academic libraries are collected and the joint statistics give a general view of the resources, collections and services of Finnish academic libraries. In addition to the basic statistics, the user can get time series and do searches defined by him. The user can also utilise the data of library indicators automatically calculated by the computer.

Although the statistics are available, the skills, and perhaps the daring, to use them are still lacking [Laitinen, 2008]. Delivering the annual statistics after the turn of the year requires a big effort by the libraries, and after the statistics have been completed, the numbers are often forgotten. This 'statistical illiteracy' of the librarians is generally known and for years now it has been stressed that such skills need to be developed [Ambrožič, 2003].

There is constant pressure to develop and intensify library services: libraries must be able to offer recent, reliable information easily and in a useful form to serve the needs of high-quality research, education and study. Because the amount of information produced around the world has increased explosively during the last few decades, this objective is extremely challenging and sound knowledge of both technology and content is required.

Therefore libraries must constantly and still more systematically be able to prove the quality and impact of their operations in order to survive. When competing for resources, the strong ones eat the weak ones, and during negotiations the library easily stands alone. In that case, cold facts and clear reporting are needed. Apart from facts obtained from statistics, subjective data, e.g., from user surveys can be obtained, and by joining these, it is possible to complete the picture of the effect of resource allocation on the development of the quality of the services.

The GNP of Finland and University Libraries

The question of course is how libraries influence our national economy. In order to answer that question we compared the growth of the gross national product (GNP) of Finland to library materials expenditure during thirty years (1977–2006). We also made a statistical regression analysis to find out if there is any real relationship between these numbers.

Figure 1 shows the trend of the GNP and and the trend of library materials expenditure in the period 1977–2006. The recession caused by the economic depression of the early 1990s is clearly seen both in the GNP and in the library materials expenditure. In Figure 2, we have plotted library materials expenditure against GNP and fitted a trend line using a linear regression procedure in order to describe the positive (rising) association of the variables. The value (R Sq Linear) visible in the picture is a coefficient of determination, meaning that statistically one could assume that 92.5% of the variation of the GNP could be explained by library materials investment. This is of course a very naive interpretation, but when the subject is examined purely numerically and rectilinear causality default is made not to pay attention to other factors substantially affecting the development of the GNP in the short or long run, in principle, this effect or connection can be found.

In order to find out whether there is an actual direct relationship between these two variables, we used the Granger causality test which is a technique for determining whether one time series is useful in forecasting another. This showed that depending on the lag interval there is clear evidence for GNP determining expenditure on library materials. This test also showed that there are some signs of a two-way causal relationship, but the actual causality should be tested more thoroughly.

It is clear that one can say that a growth in GNP frees new resources to be allocated to libraries, but one might take it a step further and speculate on a win-win situation where these two variables start to feed on each other. The outcome of this specific analysis basically provides evidence for both interpretations. This result can be considered somewhat typical since the Granger causality test rarely provides clear evidence for causality. One also has to keep in mind that the Granger test does not necessarily imply true causality. Causality can be examined with more advanced methods. However, as

Fig. 1: Trend of library materials expenditure and the GNP of Finland 1977–2006.

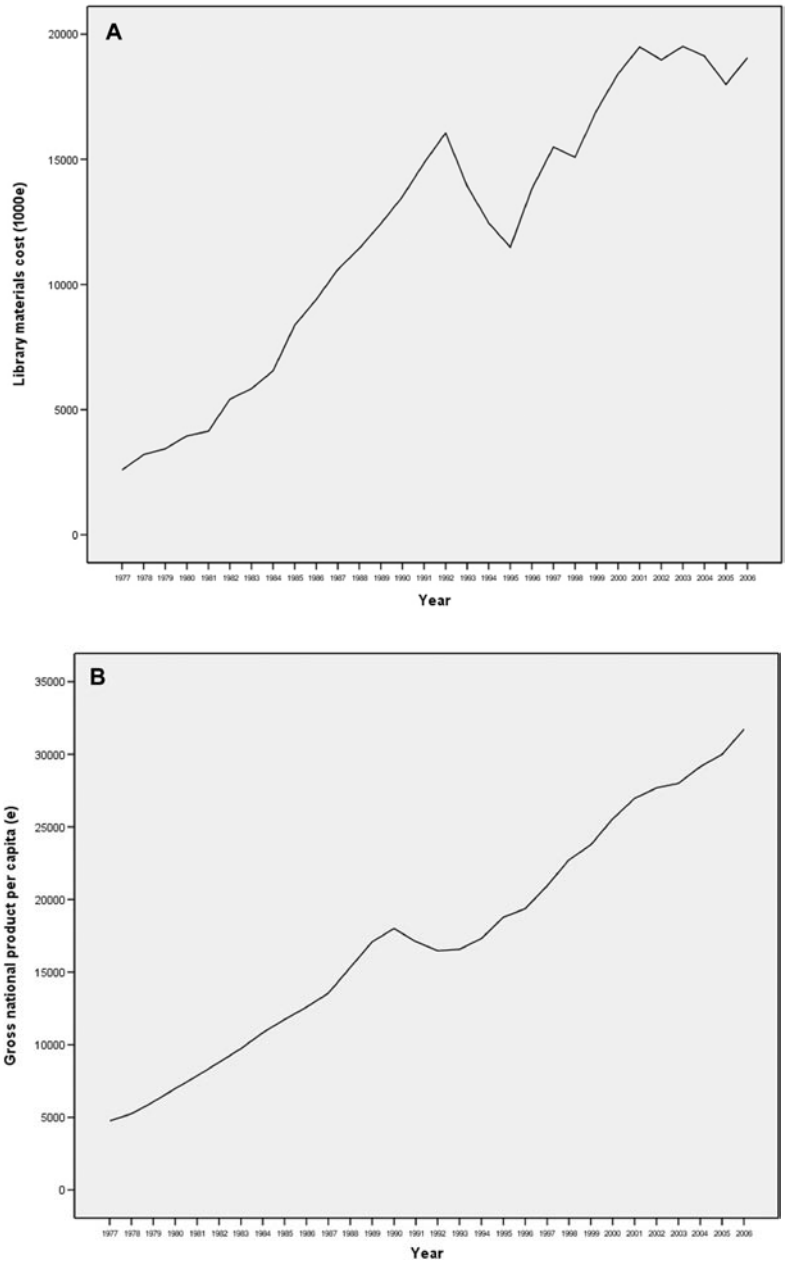
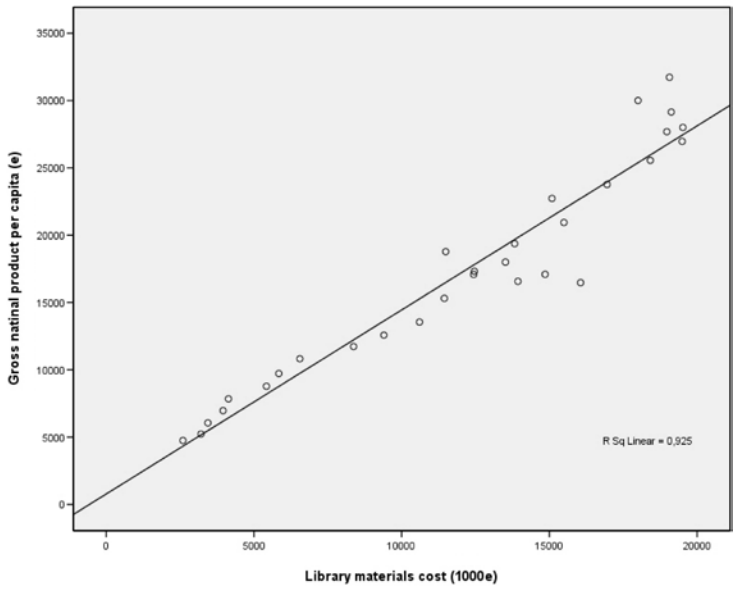


Fig. 2: Connection between library materials expenditure and GNP.



evaluation of the causality is very difficult no matter what point of view is taken, we decided not to pursue this.

Tentative Conclusion: It Is Worth Investing in Education

Scientific publishing has been evaluated as one of the most profitable businesses and as a good target for investors. This is demonstrated, e.g., by the fact that prices of science journals have increased six-fold during the years 1984–2002 and the trend has not stopped there [see, e.g., La Manna, 2003 and Morgan Stanley, 2002]. Publishers can increase the prices of scientific journals yearly, even by 100%, due to their strong position in negotiations — even though it is not at all transparent what these price increases are based on other than the value science is seen to have in a modern society. Research and its results have become the hard core of the global and national economy and libraries and universities are forced to pay the price of the publications in order to ensure access to the relevant information needed by the nation's higher education and research done in the universities.

The statistical analysis above supports at least the fact that knowledge accumulates and it is worth investing in the knowledge of a nation; there also is some evidence on the positive effect of the investment on library services [Oppenheim & Stuart, 2004]. At the present, and also most likely in the future, the most important national products are based on knowledge and information — natural resources already seem to have be dealt out. Libraries and the information resources they deliver are a crucial part of the innovation chain. In Finland this has been emphasised by the fact that university libraries are open to all and thus are a gateway to scientific knowledge throughout the whole country.

On the other hand one could argue that the most important reason for the growth of library spending has been the outrageous price increases imposed by publishers or the inflation. The contra-argument, however, could be the fact that at least in Finland we have actually been able to purchase more titles and certainly more individual articles with the money spent. Also the added functionality of digital dissemination of scientific journals has been praised by those researched here in Finland [Vakkari, 2008]. So, one needs further studies in order to actually show the different reasons for the causality discussed, as well as the cost-efficiency of each factor.

When one thinks solely in terms of productivity this might also lead to short-sighted optimisation. Quite often the productivity of the services is furthered by cutting the resources provided for them. The ultimate logic of saving money is ending all the expenses and thus ending the services that are causing those costs. Therefore we would stress that apart from the 'saving and making more effective' ideology, it is very important to keep investing, sometimes quite heavily, and thus acquiring better results in the long run for the well-being — both economical and mental — of a nation.

It seems that the private sector sees the importance of investing in know-how, because it is one of the prerequisites for strengthening the competitiveness and productivity of an organisation. Staff members also benefit, because it furthers their career prospects. So why would the situation be different in the public sector, and especially in the higher education? The ongoing renewal of universities in Finland, Europe and all over the world must be seen as a possibility where all the universities and thus their staff and students are provided with high-quality services that enable high-class research and studies.

In conclusion, it is of the utmost importance that libraries start to use statistical data and analysis in order to demonstrate the relevance of library services

for basic university functions. The first task to be undertaken in this respect is to collect a long enough set of well-defined data that enables international comparisons.

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