CONTROLLING AS A SCIENCE IN GERMANY - RETROSPECTIVE, STATUS QUO AND OUTLOOK

KONTROLING KAO NAUKA U NEMAČKOJ - PROŠLOST, SADAŠNJOST I BUDUĆNOST

Wolfgang Becker\textsuperscript{a}, Bjoern Baltzer\textsuperscript{a}, Patrick Ulrich\textsuperscript{a}
\textsuperscript{a}University of Bamberg, Kapuzinerstraße 16, Bamberg, Germany

Abstract:
The academic discipline of controlling has been a part of German science for 40 years. During this period, its importance has steadily increased, at last gaining a permanent role in German Business Administration practice and education. Universities as well as Universities of Applied Sciences now offer a wide range of controlling courses. In the following article, we analyse the development of controlling as an academic discipline in Germany, using written documents and an empirical study we conducted in 2010 among German controlling lecturers as sources. We find strong evidence that Controlling has developed from a neighbouring branch of accounting science towards an integrated function of Management. However, we also detected significant space for development of current German controlling science, such as more international citations, more English publications in international journals and a stronger emphasis on new developments such as the integrated finance function.

Key words:
Germany, Controlling research, Teaching controlling, Controlling conceptions, University.

INTRODUCTION

In 2011, controlling will celebrate its 40th anniversary in German higher education - plenty of reason to look back, inventory … and look forward! Since its humble beginnings in 1971, controlling has evolved over the course of the past four decades into a subject that is taught at almost every German university that offers business studies. Likewise, the body of academic publications relating to the topics of controlling can no longer be overlooked.

In this article, we aim to give our readers an overview of main aspects of controlling research and teaching practice in German-speaking countries. In addition to Germany, this linguistically defined and culturally homogenous region also encompasses Austria and the larger part of Switzerland (Hofstede, 2001). Solely for reasons of simplicity, the terms “Germany” and “German” will be employed as proxies for the whole region in the remainder of this article. Outside the scope of this article is an analysis of the development of controlling in German business practice - the interested reader can consult several recent and comprehensive works on this topic (Binder, 2006; Braunstein, 2008).

In the following sections of this article, we will first provide some background information on the German system of higher education and then talk about the institutionalisation of controlling at universities. Subsequently, we will discuss the understanding of controlling in Germany - or rather “understandings”, as we shall see. After that, we will present main aspects of controlling research as well as teaching practice, including both past developments and current trends. In these sections, we will draw on empirical research done by ourselves and other researchers. Finally, we will give our personal opinion about probable future developments in controlling research and teaching.

1. CONTROLLING WITHIN THE GERMAN SYSTEM OF HIGHER EDUCATION

In Germany, admission to higher education, \textit{i.e.} the tertiary sector of education, is restricted. The right
of admission can be obtained mainly by successfully passing the final examinations in different types of secondary schools. The majority of German universities - used as an umbrella term here - are public and free of charge. Roughly every fourth university is privately owned and every tenth university is run by the church. At public universities (such as the University of Bamberg), students have to pay a certain amount of administrative fees per semester, but currently there are no tuition fees in the majority of the German states. The states (Bavaria in our case) are individually responsible for the educational system in total and therefore not only decide on tuition fees, but also on the location and type of universities. The two main types of universities that exist in every state and that we will emphasize on in this article are universities (used in a narrow sense here, Universitaeten) and universities of applied sciences (FH=Fachhochschulen/Hochschulen für angewandte Wissenschaften). While universities offer a more theoretical education and have the right to grant doctorate degrees, the education at universities of applied sciences is more practical. There are roughly twice as many (usually smaller) universities of applied sciences than (usually larger) universities in Germany. Controlling research and teaching is commonplace at both types of universities.

Although there are some specialized universities, most universities offer a broad range of studies and are therefore subdivided into schools. Controlling is usually found at schools of business or with similar names (School of Business, Economics and Social Sciences in our case). Controlling courses mainly target students of Business Administration and related studies such as Industrial Engineering or Information Management, but are usually also open to students from other studies. At most universities, controlling courses are offered by one chair which is normally headed by one full professor and employs several teaching and research assistants (Messner et al., 2008). Depending on the size of the university, this chair can also be in charge of teaching other subjects, like General and Strategic Management in our case. At universities of applied sciences, however, there are generally no teaching and research assistants, and controlling courses are offered by various professors simultaneously. These professors are responsible for teaching different subjects, too.

Until the middle of the last decade, the title obtained for studying at universities and universities of applied sciences in Germany was the diploma for most studies such as Business Administration. Although diploma studies also used to be organised in two stages - general Grundstudium followed by specialised Hauptstudium, no title was awarded after the first stage. According to the Bologna agreement signed at European level, most studies in Germany switched to the internationally accepted two-stage bachelor/master system over the last years. While controlling courses were mainly taught in the second stage of the old diploma system, they are now offered at bachelor as well as at master studies.

### 2. Institutionalisation of Controlling at Universities

The origins of controlling in its modern sense lie in the United States, where the first controller positions were established in companies at the end of the 19th century. Although positions engaged with similar tasks as controllers today existed in Germany already in the first half of the 20th century (Vahs, 1990), the terms controller and controlling were not in use. They were introduced to Germany only in the second half of the last century by local subsidiaries of American companies.

For an academic discipline, its institutionalisation by university chairs or research centres is of high importance for creating an identity and for gaining acceptance (Messner et al., 2008). As controlling became more and more popular in business practice over time, universities started to be interested in controlling with some delay. As can be expected from the development that originated in practice, the first university to formally deal with controlling was a university of applied sciences: In 1971, Professor Elmar Mayer initiated the Working Group Business Science and Business Practice (AWW=Arbeitskreis Wirtschaftswissenschaften und Wirtschaftspraxis) at the newly founded FH Cologne. In 1973, the first chair that bore the name controlling was founded at the TU Darmstadt, interestingly a polytechnical university. Its chair holder, Professor Péter Horváth, later transferred to the University of Stuttgart and became one of the most prominent figures in German controlling science. His textbook Controlling was the first in the market, published in 1979 and has reached its 11th edition by now (Horváth, 2009). From 1989 on, he acted as co-editor of the renowned journal Zeitschrift für Controlling and founded, together with his former assistants from the University of Stuttgart, the consulting company Horváth & Partners Management Consultants.
Over the first two decades starting from 1973, controlling gained ground in German universities very slowly. While at some universities controlling courses were offered by professors next to their original subjects, only roughly two dozens of chairs bearing the name controlling existed on the eve of the German reunification in 1990 (see figure 1):

After the German Reunification in 1990, however, the institutionalisation of controlling saw a steep growth: from 1991 to 2004, the number of chairs bearing the name controlling more than tripled. In 2004, in 72 out of 92 schools of business there existed a chair bearing the name controlling. Two factors can mainly explain this impressive development. First, in the former German Democratic Republic just like in other eastern and south-eastern European countries, the economy was centrally planned. Thus controlling was not known there neither in practice nor in academia. After the introduction of the free market economy to Eastern Germany, however, there was an instant need of controlling knowledge, so that many new chairs of controlling were founded at existing universities in Eastern Germany. As it took time to educate new professors of controlling, many professors transferred from universities in Western Germany to Eastern Germany at that time. Second, as controlling still continued to grow in importance in business practice, there was in general an increasing demand for graduates with controlling skills. So in Western Germany, too, many new controlling chairs were founded or existing chairs were renamed.

Given the facts that professors at universities usually become tenured being in their thirties and regularly retire at the age of 65 to 67, one can conclude that from the beginning of the new millennium on, the first generation of German professors of controlling or the “pioneers of controlling” (Braunstein, 2008) left universities (Horváth, to name just one example, retired in 2005).

As we have already shown, many chairs do not offer controlling courses exclusively, but also courses from other subjects. The range of these courses can be derived from the names these chairs bear (see figure 2):

1 Only one in seven chairs is devoted solely to controlling, whereas every third chair covers the subjects of controlling as well as financial and management accounting. This can be explained by the fact that at universities, controlling seems to have evolved out of cost accounting (Weissenberger, 2002; Becker and Messner, 2005).2 Even the chairs that teach controlling and auditing or controlling and production management can be explained with this fact: While auditing

---

1 For a more recent study with similar results check Oechsler et al. (2009).
2 This opinion is supported by empirical evidence (Binder and Schaeffer, 2005b).
can be seen as a logical counterpart to financial accounting, production management has close ties with cost accounting. The cost accounting systems that were developed in Germany from the beginning of the 1950s on built on cost theory, which was itself derived from production theory (Kilger, 1958; Kilger et al., 2007).

3. CONTROLLING CONCEPTIONS

Beside formal-analytical research and empirical research, conceptual research is one of the basic research approaches in business administration and traditionally very strong in Germany (Wagenhofer, 2006). For the first two decades, controlling research was to a large extent conceptual (Weissenberger, 2002; Schaeffer and Brettel, 2005). The reason for this fact lies in the struggle of controlling to become a generally accepted discipline within business administration (Becker and Messner, 2005). Stemming from practice, controlling at first had a hard time to gain acknowledgement in academia, as many professors of business administration did not see what should be new about controlling that was not already covered in existing disciplines. To cite just one prominent critic of that time, “Controlling is a fairy tale about a ghost from practice that worships himself as a superman” (Schneider, 1991). This reluctance towards controlling is one reason for the slow increase in chairs of controlling over the first two decades.

As can be seen from the steep increase in chairs of controlling after 1990, this attitude changed over time and nowadays, controlling is widely accepted as a discipline of business administration. In a 1998 survey among professors of business administration, an overwhelming 96% of the respondents declared controlling to be a notable discipline of business administration. The professors were also asked to estimate the importance of controlling at that time (i.e. 1998) compared to one decade earlier (i.e. 1988) and compared to one decade later (i.e. 2008). Both for teaching and research, they correctly predicted a further gain of importance for the future (see figure 3). For all three points in time, the importance of controlling was estimated highest for business practice, again a logical consequence from the origins of controlling.

Conceptual research mainly dealt with the elaboration, discussion and mutual criticism of controlling conceptions. Over time, an impressive amount and variety of controlling conceptions have been developed mainly by academics, but by some practitioners as well. A recent anthology dedicated to controlling conceptions in Germany contains almost 1000 pages (Scherm and Pietsch, 2004), of which we can just give a short overview in this article.

A controlling conception can be defined as a fundamental and comprehensive understanding of controlling. Controlling conceptions usually make statements concerning all relevant aspects of controlling, which are its philosophy and goals, its functions, objects and tasks, the tasks bearers and the techniques and IT-tools they use, and finally its processes (Becker, Scherm and Pietsch, 2004).
Requirements that should be fulfilled by controlling conceptions are a clearly defined problem that needs solving, a sound theoretical foundation, and finally proofs of successful implementation in practice (Kuepper, 2008).

While some conceptions only differ in detail and even build on each other, others are based on completely different theories, for example. There is even no agreement how to classify this multitude of conceptions. We find a categorisation useful that shows the development of conceptions in a chronological order (see figure 4):

One important distinction can be made among the controlling conceptions (Eschenbach and Niedermayr, 1996): According to some conceptions, controlling is understood in the Anglo-American sense as management control, whereas according to the majority of conceptions, controlling is equated with the tasks of the controller, i.e. controllership. Our own understanding of controlling lies somewhat in the middle (Becker, 1990; Becker and Baltzer, 2010). We interpret controlling as an instrument used by the management for initialising impulses and constantly focusing all of the organisation’s activities towards the creation of value. However, we do not limit value added to a narrow financial perspective, but understand it more broadly as a coequal combination of the fulfilment of demands, the satisfaction of needs, and the generation of remuneration for important company stakeholders. We call this main or original function of controlling locomotion, being an integral part of managers’ work. However, locomotion can only be carried out satisfactorily if two further, derivative functions are fulfilled, which form part of controllership. These derivative functions concern the mutual coordination of direction and fulfilment and the assurance of information congruency within the organisation, i.e. harmonising need, offer and demand of information. Altogether, our own conception is very much in line with what is considered to be the common core of the plethora of controlling conceptions in Germany: Abstracting from details, all conceptions discuss coordinating effects of controlling, stress the importance of informational support for management, and finally relate controlling to management control (Pietsch and Scherm, 2002).

4. CONTROLLING PUBLICATIONS

For academics, publishing is one of the most important ways to transmit research results to colleagues and practitioners, especially in the form of books, journal articles and research papers. Moreover, in the form of textbooks, publishing is of equally high relevance in order to provide teaching material to students. Within the business administration science in Germany, writing or editing books and textbooks is generally considered to be very prestigious (Wagenhofer, 2006). Therefore, many controlling scholars belonging to the first generation started with writing books instead of journal articles (Messner et al., 2008). As a consequence, among the 21 most often cited references in German controlling articles between 1990 and 2003, there are...
14 textbooks, 4 journal articles, 2 books, and 1 book section (Binder and Schaeffer, 2005b).

Regarding journals, there is no highly ranked journal in Germany that is exclusively dedicated to controlling (Zuehlke, 2007). According to the official journal ranking by the German Academic Association for Business Research (VHB) which uses a scale from A+ (highest) to E (lowest) (Schrader and Hennig-Thurau, 2009), two specialized controlling journals (Controller Magazin, Zeitschrift fuer Controlling) are ranked E and another two (Zeitschrift fuer Controlling und Management, Zeitschrift fuer Planung und Unternehmenssteuerung) are ranked D (see figure 5):

Despite their scientifically rather low reputation, those journals are highly popular among practitioners and an important tool for controlling scholars to communicate with them. This can be seen from the fact that a considerable amount of articles in these journals are written by practitioners or jointly by practitioners and academics (Wagenhofer, 2006; Messner et al., 2008).

As there are no journals with high academic reputation in Germany specialized in controlling, controlling scholars have to use general business administration journals for their scientific publications. Contrary to the specialized controlling journals, the leading business administration journals are much more strict in their review process (e.g. double blind review) and thus considerably higher ranked in the VHB-ranking (see figure 5). Figure 6 shows the percentage of controlling articles from 1970 to 2003 in exactly those general business administration journals.

The parallel that can be drawn between the share of controlling publications in general business administration journals and the institutionalisation of controlling chairs over time is more than obvious: from 1970 to 1990, the percentage fluctuates around 6% on average, while it doubles to roughly 12% from 1990 to 2003. It is interesting to note here that despite the declared goal of those general business administration journals, they are neither well known nor often read by practitioners, nor do they benefit from the articles in case of reading them (Oesterle, 2006).

One further characteristic of German controlling publications that has to be mentioned is that for a long time, they were excluded from international research (Ahn, 1999). This can be seen on the one hand by the low number of publications by German controlling academics in international and thus English-speaking journals: before 1994, there was only one article by a German scholar published in a highly ranked journal from an international perspective (Messner et al., 2008), and from 1998 to 2004, there were no more than 19 articles by German academics published in internationally leading controlling journals (Wagenhofer, 2006). On the other hand, relatively few English-speaking references were cited in German controlling publications: From 1970 to 2003, only roughly every fourth reference is in English language, although a slight increase over time can be noted (Schaeffer et al., 2006). Apart from ordinary

4 From 2011 on, Zeitschrift fuer Planung und Unternehmenssteuerung is called Journal of Management Control.
language problems, a couple of reasons might explain this fact (Wagenhofer, 2006; Messner et al., 2008): First, as we have seen, controlling is understood by some German academics not as management control, but rather as controllership, so that this special German diction does not fit too well with the internationally terminological conventions. Second, as we have also seen already, for a long time controlling research was very theoretical, but this type of research was not of high interest outside of Germany. Third, publishing internationally was for the first generation of controlling scholars simply not needed for progressing in their academic career, so they saw no benefit in doing so.

Again, apart from the probably better mastery of the English language by younger controlling scholars, especially reasons two and three are responsible for a substantial increase in international publications by German controlling academics in recent years. As we will see in the next chapter, theoretical research has decreased in importance in recent years. Moreover, publishing internationally is of high importance today if you want to become a controlling academic (Messner et al., 2008). This development is eased by the fact that doctoral theses as well as professorial theses, which both used to be published in the form of books, can now be replaced by collections of articles.

5. CONTROLLING RESEARCH

We have already explained above why theoretical research dominated controlling during its first two decades. From the middle of the 1990s on, however, controlling has finally gained overall acceptance, and the share of theoretical research decreased, though it is still of high importance (see figure 7). In a recent survey among controlling professors at German universities, they indeed declared their intention to do less theoretical research in the future (Hess et al., 2005).

While the percentage of formal-analytical research (using mainly principle-agent theory and decision theory) stayed roughly constant, the share of empirical research steadily increased. This development is in line with the general trend in German business administration towards more empirical research (Homburg, 2007). However, empirical research in controlling is, compared to other disciplines in business administration, still somewhat underdeveloped in Germany (Homburg and Klarmann, 2003).
Two studies looked at empirical research with more detail and distinguished several research methods. Both studies used roughly the same data basis (scientific journals) and ended in 2003. However, the starting dates of these analyses differ, which allows us to draw conclusions about the development of research method use over time (see figure 8).

A first remarkable result is that during that time, almost no experiments were conducted in German controlling research. However, the interviewed controlling professors declared that they wanted to intensify experimental research in the future (Hess et al., 2005). While the share of action research remained constant, qualitative case studies and archival data...
analysis (as well as other methods) saw a slight increase. Apart from that, two big trends can be noted: The importance of merely illustrative case studies decreased sharply, while the share of quantitative surveys grew significantly larger.

From about 1990 onwards, researchers aimed at building a stronger theoretical basis for controlling (Weissenberger, 2002). The theories that were most often drawn upon in scientific articles between 1998 and 2004 can be seen from figure 9.

We have already mentioned that cost theory is linked to production theory, which explains the leading position of production management. The second, almost equally important source of theories is economics, mainly in the form of principle-agent theory and decision theory used in formal-analytical research. While theories from strategic management are mostly used in strategic management accounting (e.g. for lifecycle costing), value-based management, risk management and related topics draw upon finance theories. Unlike in Anglo-American controlling research, “soft” disciplines such as sociology, psychology or organizational behaviour are almost no source of theories. Although the use of the latter theories is gradually increasing (Becker, 2004; Hirsch, 2008), no real change can be expected in the near future: According to the interviewed controlling professors, they will mainly stick to principle-agent theory, decision theory and cost theory for future research projects (Hess et al., 2005). This must be interpreted as a deficit, because
it is exactly theories from sciences like sociology and psychology that open the - often called for - behavioural perspective upon controlling (Reimer and Orth, 2008).

The analysis of the contents of research is not an easy task, as they can be categorized in many different ways. Building on a system by Shields, Wagenhofer’s analysis of controlling articles in scientific journals from 1998 to 2004 leads to the following results (see figure 10).5

Figure 10. Content-related classification of controlling articles in scientific journals from 1998 to 2004 (%)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Accounting systems</td>
<td>12%</td>
</tr>
<tr>
<td>Management Accounting for decision making</td>
<td>20%</td>
</tr>
<tr>
<td>therein Costs for decision-making purposes</td>
<td>9%</td>
</tr>
<tr>
<td>Production planning</td>
<td>7%</td>
</tr>
<tr>
<td>Pricing decisions</td>
<td>5%</td>
</tr>
<tr>
<td>Cost Management, Strategy</td>
<td>8%</td>
</tr>
<tr>
<td>Value-based Management</td>
<td>10%</td>
</tr>
<tr>
<td>Risk Management</td>
<td>4%</td>
</tr>
<tr>
<td>Management Control</td>
<td>43%</td>
</tr>
<tr>
<td>therein Variance Investigation</td>
<td>4%</td>
</tr>
<tr>
<td>Management incentives</td>
<td>14%</td>
</tr>
<tr>
<td>Performance measures</td>
<td>9%</td>
</tr>
<tr>
<td>Budgeting</td>
<td>5%</td>
</tr>
<tr>
<td>Capital budgeting</td>
<td>9%</td>
</tr>
<tr>
<td>Transfer pricing</td>
<td>3%</td>
</tr>
<tr>
<td>Role of Management Accountants</td>
<td>4%</td>
</tr>
</tbody>
</table>


6. TEACHING CONTROLLING

At the beginning, controlling topics were merely integrated into existing courses of business administration. It is reported that in 1973, there were no separate controlling courses at all (Hartmann, 1973). Due to their closer connection with business practice, it was universities of applied sciences that started to offer separate controlling courses. Although he already took over his chair in 1973, Péter Horváth remembers having offered his first controlling course only in the summer term of 1975 (Messner et al., 2008). Parallel to the slow institutional development, there is an account that as late as 1990, universities were still reluctant to offer separate controlling courses (Bramsemann, 1990). Nowadays, it is commonplace to offer at least one course called controlling at both universities and universities of applied sciences, while the number of courses will depend on the individual university’s size. However, in a recent study, we found that controlling courses are mandatory at most universities at bachelor level, but only at two thirds of the answering universities at master level (Becker, Baltzer and Haeusser, 2011). This can be explained by the fact that master studies usually have a clear focus, while bachelor studies are more general in nature.

In the face of the great variety of controlling theories, we asked in the same survey how many and which theories are discussed in class (see figure 11).

---

5 For different categorizations and results, see Hess et al. (2004); Binder and Schaeffer (2005b).
We found that the discussion of controlling theories is an important part of controlling courses at both bachelor and master level. On average, 3.3 theories are presented in class. As the columns show, the historically older theories (see figure 3) have a higher circulation than the younger theories. An interesting fact is that a relatively high number of professors (7 out of 24, see line in figure 11) have an understanding of controlling that is different from the commonly discussed theories. This supports the view that controlling is still far from being a uniform concept.

However, controlling is a concept that is suitable not only for companies as a whole, but also for their different functional departments. Still, it is common knowledge that controlling should be adapted to those departments: controllers adhering to the marketing department will use different controlling techniques than controllers in the purchasing department, for example. Therefore, we asked the professors which functional adaptations of controlling they discuss in class. We used Porter’s value chain model (Porter, 1985) for providing answering possibilities and differentiated between bachelor and master studies. Full circles indicate discussion by (almost) all professors, empty circles by (almost) no professor, while blue circles stand for bachelor and orange circles for master studies (see figure 12).

It can be seen that functional adaptations of controlling are overall more important for bachelor than for master courses. The most important topics are controlling for the finance, operations and marketing & sales departments. While the two latter stand for the core activities of companies – producing and selling products or services - the former can be explained by the fact that beside profit, liquidity is the second most important parameter for the operational steering of a company.

We also found that the two topics of least importance for both bachelor and master courses are international aspects of controlling and IT-support for controlling. If the understanding of controlling in foreign countries is discussed in class, mostly the US-American and British views are presented. However, in most classes, the course material is mainly in German language, as can be seen from the share of English-language course material (see figure 13).

As master courses are usually more theoretical than bachelor courses, the share of English literature increases, but is in total still very low. Concerning the type of literature, individual hand-outs are used most often, but textbooks and journal articles are frequently used, too.

It is common knowledge that controlling can hardly be done in practice without relying heavily on information technologies. Though, it should be expected that dealing with IT aspects is a crucial part controlling courses at universities as well. However, our survey showed that one in five professors at bachelor level and two in three professors at master level do not cover IT-topics in their controlling courses at all. For the remaining professors, we offered three types of answers: general IT-knowledge, controlling-specific IT-knowledge and knowledge about specific IT systems that are used in controlling (see figure 14).

While there is little difference at master level, discussing specific IT systems dominates at bachelor level. This can again be explained by the more practical and less theoretical approach in bachelor courses. In an additional open question, the most frequently

---

**Figure 12. Coverage of functional Controlling specializations in class**

![Figure 12. Coverage of functional Controlling specializations in class](image)


---

5 See Hirsch (2003) for a similar finding.

mentioned IT system was SAP ERP, moreover there were a few mentions of Microsoft Excel and Professional Planner.

Our own as well as one other study showed that controlling techniques are the most important topic taught in controlling classes.\(^7\) In both surveys, the professors were asked to name the most important controlling techniques they discuss in class (see figure 15).

Several techniques (printed in italics) were mentioned in both studies, which confirms the opinion that apart from all conceptual disputes, most professors still teach the same controlling techniques in class.

Finally, we wanted to know to which extent current developments in business practice are discussed at controlling classes (see figure 16).

As expected of a discipline with strong ties to practice, most professors try integrating current developments in business practice both in bachelor and master courses at least to a modest degree. The most important ways of connecting teaching with practice are inviting practitioners to do presentations, discussing practical examples or case studies in class and assigning practical theses to students.

\(^7\) For the following see Becker, Baltzer and Haeusser (2011), Hirsch (2003).
The academic discipline of controlling has reached a considerable degree of legitimacy in Germany. Controlling has been institutionalized in German companies for about fifty years. In addition, controlling is nowadays a commonplace subject taught at almost every university or university of applied sciences that offers business studies. There are a significant number of controlling chairs, and conceptual and theoretical issues regarding controlling are widely discussed among its scholars. Thus, there may be some legitimacy in regarding controlling as an independent branch of business administration research. However, critics constantly - and with good arguments - point to the fact that until now, no controlling theory has been able to completely and convincingly differentiate controlling from related branches such as cost accounting, management studies and (general) business administration (Messner et al., 2008).

We will not comment here on the question whether controlling should be regarded as an independent branch of business research or not. However, we may be allowed to present some basic advice on how controlling could or should develop in the present future in order to become or stay an independent branch, respectively. First, German controlling research so far clearly focuses big enterprises. As with many other areas of German business research, the fact that small and medium-sized enterprises represent a large part of Germany’s economic value added must also be taken into account (Becker and Ulrich, 2011). Thus, more research should be conducted regarding this special sector of the German economy. Consequently, more and more academic research is conducted by specialized institutions such as the Deloitte Institution for Midmarket Research at the University of Bamberg. Second, in order to gain greater international importance, German controlling research must become more empirical, signifying more qualitative research (e.g. case studies), more theory-testing, quantitative research as well as more experimental research.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Traditional) Cost Accounting</td>
<td>Balanced Scorecard</td>
</tr>
<tr>
<td>2</td>
<td>(Strategic) Planning</td>
<td>(Traditional) Cost Accounting</td>
</tr>
<tr>
<td>3</td>
<td>Budgeting</td>
<td>(Strategic) Planning</td>
</tr>
<tr>
<td>4</td>
<td>Transfer Pricing</td>
<td>Budgeting</td>
</tr>
<tr>
<td>5</td>
<td>Balanced Scorecard</td>
<td>Portfolio Analysis</td>
</tr>
<tr>
<td>6</td>
<td>Key Performance Indicators</td>
<td>Key Performance Indicators</td>
</tr>
<tr>
<td>7</td>
<td>Investment Appraisal</td>
<td>Target Costing</td>
</tr>
<tr>
<td>8</td>
<td>Activity-based Costing</td>
<td>Profit Analysis</td>
</tr>
<tr>
<td>9</td>
<td>Profit Analysis</td>
<td>SWOT-Analysis</td>
</tr>
<tr>
<td>10</td>
<td>Various, e.g. Target Costing</td>
<td>Various, e.g. Benchmarking</td>
</tr>
</tbody>
</table>

CONCLUSION

As we have shown in this article, the academic discipline of controlling has reached a considerable degree of legitimacy in Germany. Controlling has been institutionalized in German companies for about fifty years. In addition, controlling is nowadays a commonplace subject taught at almost every university or university of applied sciences that offers business studies. There are a significant number of controlling chairs, and conceptual and theoretical issues regarding controlling are widely discussed among its scholars. Thus, there may be some legitimacy in regarding controlling as an independent branch of business administration research. However, critics constantly - and with good arguments - point to the fact that until now, no controlling theory has been able to completely and convincingly differentiate controlling from related branches such as cost accounting, management studies and (general) business administration (Messner et al., 2008).

We will not comment here on the question whether controlling should be regarded as an independent branch of business research or not. However, we may be allowed to present some basic advice on how controlling could or should develop in the present future in order to become or stay an independent branch, respectively. First, German controlling research so far clearly focuses big enterprises. As with many other areas of German business research, the fact that small and medium-sized enterprises represent a large part of Germany’s economic value added must also be taken into account (Becker and Ulrich, 2011). Thus, more research should be conducted regarding this special sector of the German economy. Consequently, more and more academic research is conducted by specialized institutions such as the Deloitte Institution for Midmarket Research at the University of Bamberg. Second, in order to gain greater international importance, German controlling research must become more empirical, signifying more qualitative research (e.g. case studies), more theory-testing, quantitative research as well as more experimental research.
The development of controlling in Germany shows that a body of knowledge arising out of practical necessity can successfully institutionalize itself in the scientific community. Future will show if the concept of controlling - until now seen as a specific German discussion - can add to the international discussion regarding management accounting and business administration research.

REFERENCES


Rezime:

Kontroling kao akademska disciplina je već 40 godina deo nauke u Nemačkoj. Tokom ovog perioda, njegova važnost je stalno rasla, dok nije dobila stalno mesto u praksi i obrazovanju u oblasti poslovnog upravljanja. Univerziteti i više strukovne škole nude veliki broj predmeta iz oblasti kontrolinga. U ovom radu ćemo analizirati razvoj kontrolinga kao akademske discipline u Nemačkoj, uz upotrebu pisanih dokumenata i empirijskog istraživanja kojeg smo obavili tokom 2010. godine među profesorima kontrolinga u Nemačkoj. Rezultati jasno pokazuju da se kontroling razvio iz bliske oblasti računovodstva ka integranoj funkciji menadžmenta. Ipak, videli smo i da postoje značajne mogućnosti za dalji razvoj u sadašnjoj oblasti kontrolinga u Nemačkoj, kao što je navođenje više stranih izvora, više radova na engleskom jeziku u međunarodnim časopisima i veći naglasak na novim pristupima, kao što je integrirana funkcija finansija.

Ključne reči:

Nemačka, istraživanja u oblasti kontrolinga, nastava, koncepti, univerzitet.