

University of Economics, Prague
Faculty of Finance & Accounting
Department of Management Accounting



**Comparison of the Management Accounting
and Controlling Practices in the People's
Republic of China and Germany**

Master thesis author: Florian Häuser

Supervisor: doc. Ing. Jaroslav Wagner, Ph.D

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Declaration:

I hereby declare, that I have written this master thesis on topic “**Comparison of Management Accounting and Controlling Practices in the People’s Republic of China and Germany**” by myself and referenced all used literature and other sources in the attached list at the end of this work.

In Prague on 26th May 2017

Florian Häuser

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Abstract:

This master thesis compares management accounting (MA) in China and Germany. It starts by analyzing the conceptual development over time. Afterwards, it categorizes the spread of the methods and explains conceptual differences in more detail. Subsequently, macroeconomic factors that have influenced the development of MA are described, evaluated, and future implications for the further development of MA are derived. For this purpose a traditional literature review is used. The MA practice in Germany is further disseminated than in China. Moreover, German management accountants are characterized as business partners while Chinese management accountants are perceived as analysts and inspectors. Other conceptual differences in terms of MA are the data source, the overall orientation, country-specific techniques, and the organizational structure. Most of the differences between German and Chinese MA can be allocated to political, economic, foreign, educational, academic, and cultural influences. The future implications for the further development depend on each factor individually.

Key words: Comparative management accounting, China, Germany, conceptual comparison, economical influence, educational influence, cultural influence

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List of abbreviations

ABC	Activity Based Costing
ABM	Activity Based Management
ARR	Accounting Rate of Return
BSC	Balanced Scorecard
CFO	Chief Financial Officer
CGMA	Chartered Global Management Accountant
CIMA	Chartered Institute of Management Accountants
CICPA	China Institute of Certified Public Accountant
CMA	Comparative Management Accounting
CPC	Communist Party of China
CPA	Certified Public Accountant
CVP	Cost-Volume-Profit
ERP	Enterprise Resource Planning
EVA	Economic Value Added
FA	Financial Accounting
FDI	Foreign Direct Investments
IGC	International Group of Controlling
ICV	International Controller Association
IFAC	International Federation of Accountants
IMA	Institute of Management Accountants
IRR	Internal Rate of Return
MA	Management Accounting
MNC	Multinational Corporations
NAA	National Association of Accountants
NPV	Net Present Value
PMS	Performance Measurement System
ROI	Return on Investment
RI	Residual Income
SOE	State-Owned Companies
VBM	Value Based Management
WTO	World Trade Organization
WFOE	Wholly Foreign-Owned Companies

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Introduction

Due to progressive globalization and increasing competitive pressure, companies are required to demonstrate high efficiency constantly. Therefore, the more complex business environment calls for the effective steering of companies in order to remain profitable. Management accounting (MA) and controlling are commonly perceived as a central element of ensuring sustainable business success (Weber and Schäffer, 2011).

Comparative management accounting (CMA) aims to examine the dissemination of concepts and instruments in different countries across the globe. MA should be adjusted in accordance with the individual requirements of organizations and the environment surrounding them (Endenich, 2012).

In light of ongoing globalization, it seems only reasonable that an analysis of differences and similarities as well as influencing factors helps to better understand foreign approaches to MA. Based on this, leveraging each other's best practices and acknowledging different approaches can help to ensure future business success.

The aim of my master thesis is to compare the MA and controlling practices of the People's Republic of China and Germany. In order to do so, my master thesis is threefold. Firstly, I aim to categorize the contemporary dissemination of MA in both countries while identifying and subsequently describing conceptual differences and similarities. Secondly, I seek to identify, describe, and evaluate the impact of factors attributable to the development of country-specific differences and similarities. Thirdly, I derive the further implications of each factor for future MA development.

In order to perform the comparative analysis to reach the defined objectives, I mainly use a traditional literature review. Thus, the published work concerning MA practices in both countries is examined critically. The information retrieved for the analysis focuses on China and Germany as fundamental countries of concern. The published work will be divided into four categories. The first three categories are closely modeled on the defined objectives, whereas the fourth category displays a broader perspective on CMA itself.

My master thesis contributes to the existing literature on and discussion of CMA, as it provides an initial comparison of MA and controlling in Germany and China. A comparison between the two countries cannot, to the best of my knowledge, be found in the current

literature. Therefore, the scope of the analysis is particularly broad in order to create a comprehensive overview which can be the basis for further, more detailed studies on specific aspects.

My master thesis is organized as follows. The first chapter (Chapter 1), defines the theoretical framework of CMA. Additionally, a brief compilation of CMA studies is provided. In Chapter 2, the methodology is described in more detail by explaining the choice of countries, defining the research question, and developing the research design. Chapter 3 comprises an analysis of the conceptual development of MA in the respective countries. The dissemination of MA is categorized before a conceptual comparison of the chosen dimensions is performed. Chapter 4 focuses on an analysis and evaluation of the influences and determinants which have shaped MA in both countries. Moreover, future implications for each factor are derived. Finally, Chapter 5 concludes the thesis.

1 Theoretical framework of CMA

1.1 Depiction of CMA

CMA is a rather young discipline. It compares MA across countries and cultures to satisfy the needs of the ongoing business internationalization.

This chapter aims to describe the fundamentals that characterize CMA. Moreover, it provides a comprehensive literature review concerning CMA studies in Western European and developing countries.

In the following, for simplification purposes, MA stands for both management accounting and controlling. Similarly, the label CMA comprises both management accounting as well as controlling. The actual difference between management accounting and controlling will be explained in Chapter 1.2.

1.1.1 Definition and classification

The comparison of MA across countries dates back to the 1980s. Comparative studies have continuously been published in journals specializing in MA. Today, it is widely accepted that both minor and major differences concerning the specific characteristics of practices across countries exist (Hoffjan, 2008).

The overall heading “international MA” consists of two subcategories

1. MA in multinational companies
2. International CMA

MA in multinational companies deals with the analysis of specific requirements arising from business activities in different countries.

International CMA systematically examines the level of dissemination of MA systems and techniques in theory and practice across countries and cultures. It explores the applications, transferability, and cross-country adaptation of MA. An analysis of existing similarities and differences allows one to study and understand the concepts developed in a specific country.

The rationale of CMA is that the adoption or understanding of foreign MA techniques generates comparative advantages in an increasingly competitive global market environment. The overall objectives of CMA can be divided into the three categories descriptive, heuristic, and pragmatic.

Table 1 illustrates how extensive and varied the objectives of CMA are, which underpins the importance of a delimitation in comparative studies.

Table 1: Objectives of CMA

Criteria	Descriptive	Heuristic	Pragmatic
Principle	Analysis of MA dissemination and identification of differences and similarities	Analysis of the identified differences and underlying causes and rationales	Analysis of best practices, success factors as well as inefficiencies
Special focus	<ul style="list-style-type: none"> • Applied MA techniques • Impact of management accountants on the management decision-making process (role perception) • Influence of macroeconomic, political, institutional, and cultural factors • Education 	<ul style="list-style-type: none"> • Relation economical frameworks and dissemination of MA • Adaption of MA in terms of contingency variables • Sociological explanatory matters 	<ul style="list-style-type: none"> • International learning effects through benchmarking • Transfer of successful country-specific innovations • Recommendations for multinational companies • Identification of best practices and inefficiencies

Source: own representation based on Endenich (2012); Holtbrügge and Welge (2010).

1.1.2 Characteristics and limitations

Despite the youth of CMA, the literature is very varied regarding its methods and theories. It tends to focus on many different techniques and instruments. To provide an overview, the underlying literature can be divided into four categories: methodology, theoretical foundation, key themes in MA, and geographical focus.

The used *methodologies* in CMA are diverse. In the literature, case and field studies, survey-based studies, analysis of publications and documents (textbooks), and experiments can be found. In early stages of research survey-based studies overweight, whereas later stages fall back on case and field studies. Due to the difficulties in data

collection many studies are only comprised of rather small samples which urges for further research (Endenich et al., 2011).

Concerning the *underlying theories* of studies, early stages stronger rely on cultural theories introduced by Hofstede, Trompenaars, or House. Furthermore, many studies use contingency frameworks to determine how MA practices must be customized to be effective. Recently, sociological explanation patterns gain importance, whereas some studies completely lack a theoretical foundation. One of the main obstacles in literature is the limited scope of theories that has been applied. Also most of the studies explicitly analyze differences, whereas a transnational convergence becomes increasingly important (Endenich et al., 2011).

Key themes found in the literature can be grouped in six categories comprised of individual MA instruments, investment decisions, education of management accountants, relation of product quality, roles of management's accountants, and incentive systems (Endenich, 2012).

An overall *geographical focus* is put on Anglo-Saxon countries¹. This is reaffirmed as the MA practice originates from the US and publications are not affected by any language barriers. However, many comparative studies are based on German MA as well. Other geographical areas are Japan, high technology countries in Asia, southern European countries, and developing countries (Endenich, 2012). Yet, developing countries lack of an extensive CMA literature. In particular, China as the second largest economy world-wide was rarely addressed so far.

1.1.3 Research in Western European and developing countries

CMA studies on *Western European countries* are strongly represented. After the economic downturn in Japan, researchers and practitioners have increasingly addressed Western European countries. They focused on comparisons between Western European and Anglo-Saxon countries as well as inter-European comparisons. The literature can be

¹ In this paper Anglo-Saxon countries are defined as the UK and USA.

divided into the four streams: transnational convergence, role perception, techniques, and cultural aspects.

Transnational convergence: Sheridan (1995) found that the increasing number of multinational companies caused a convergence between Great Britain and other European countries. Later Shields (1998) revisited the topic and found that terminologies and techniques between 11 European countries converged noticeable. However, meaningful empirical data for the convergence was not provided.

Role perception: Ahrens (1996, 1997) showed that German management accountants focus on conceptualized functional expertise while remaining more distant to operations compared to their British counterparts. On the contrary, British management accountants stronger link operations to accounting data. Wagenhofer (2006) came to a similar conclusion for Germany.

Techniques: Fleischman et al. (2008) proved that cost accounting in Great Britain and the US was developing at a different pace after the Second World War. Also the adoption of German cost accounting techniques in the US was discussed.

Cultural aspects: Carr and Tomkins (1998) showed that in Germany formal strategy and control approaches prevail and demonstrate the long-term orientation of German MA. On the contrary, in the US strong financial control systems and a short-term performance orientation prevail. Moreover, the deeply rooted German cost accounting was traced back to a higher uncertainty avoidance of Germany compared to the US.

Compared to Western European CMA, literature on *developing countries* is far from being extensive. However, certain aspects were already addressed. The focus was on comparisons between developing and Anglo-Saxon countries as well as on comparisons among different developing countries.

Cultural aspects: Luther and Longden (2001) stated that MA cannot be understood without references to political, cultural, and economic factors. They concluded that for South Africa management accounting systems are most valuable due to high environmental uncertainties. Based on a survey study, Joshi (2001) argued that due to a more conservative management and higher restraint for cultural changes Indian

management accountants rely stronger on traditional MA techniques than their Australian counterparts.

Techniques: In a comparative study about China, India, Malaysia and Singapore, Sulaiman et al. (2004) found that companies in all three countries rely stronger on traditional MA techniques instead of applying modern MA techniques.

Douglas et al. (2007) showed that a stronger involvement of managers in the budgetary process of Egypt and Mexican companies increases risks and leads to a lower individual performance of managers.

A small range of studies focused on the adoption of Western MA in China in the context of organizational and historical developments (Li, 2009; Chow et al., 2007). Furthermore, O'Connor et al. (2004) showed that limited-term employment contracts, joint venture experience, stock exchange listing, and the availability of training significantly influence the adoption process of Western MA in Chinese SOEs. However, those studies only capture the comparative aspect in a very broad context as no actual comparison takes place.

Only Adili (2008) addressed CMA between Germany and China. Apart from this, literature covering a comparison of German and Chinese MA practices could not be found. Adili (2008) published a case study about the experiences and requirements of implementing German MA practices in a Chinese subsidiary. He argued that Guanxi as one of the central ideas of Chinese society significantly influences the adoption of German MA in Chinese subsidiaries.

1.2 Distinction between MA and Controlling

Two of the most commonly applied concepts used to navigate companies are MA and controlling. Both concepts are not used and understood equally in all countries. Controlling is used most often in German-speaking countries and MA in Anglo-Saxon countries.

The two most influential countries in regard to MA and controlling are Germany and the US. Germany was considered to have the greatest influence in the first half of the 20th century, and the US in the second half of the 20th century (Amat et al., 1999). In Germany management accountants are called controllers (Luther et al., 2009). The different

terminology does not imply that both MA and controlling can be clearly distinguished from one another without overlaps. On the contrary, techniques and functions certainly overlap to some extent. A conceptual distinction between the practices creates more transparency and foresight for the following analysis.

The aim of this chapter is to create an awareness of the different definitions and terminologies of MA and controlling.

1.2.1 Management Accounting

There are many other labels used in the literature as synonyms for MA, such as “internal accounting” or “managerial accounting.” Not only do the terms connected to MA vary, but the definition of the exact same term also varies between different countries. Amat et al. (1999) found that even the term “MA” implies different meanings across nations.

Generally, in the literature two definitions with varying scopes are applied. On the one hand, MA displays a narrower perspective if it is only defined as internal cost accounting and internal calculations (Horváth, 2015). On the other hand, the Chartered Institute of Management (CIMA) and the National Association of Accountants (NAA) understand MA with a broader perspective. In 1981, the NAA published a statement on MA defining it as “[...] *the process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of financial information used by management to plan, evaluate, and control within the organization and to assure appropriate use of and accountability for its resources.*” (NAA, 1981).

CIMA defines MA similarly by stating that “*Management accounting is the sourcing, analysis, communication and use of decision-relevant financial and non-financial information to generate and preserve value for organizations.*” (CIMA, 2017).

Both statements together demonstrate that MA relies on data from internal and external sources to analyze, process, interpret, and communicate information. Thus, it can be seen as a collective term for the general managerial process of planning, evaluating, and controlling, as well as reporting. MA uses financial accounting (FA) data as well as cost accounting data. Although, MA, FA, and cost accounting are interconnected, they are still characterized and driven by different objectives. Thus, it is important to distinguish MA from FA and cost accounting (Hoffjan et al., 2009; Lal, 2009).

FA comprises the preparation of financial statements for each accounting period to comply with laws, rules, regulations, and accounting standards and is solely concerned with external parties such as governments, shareholders, and authorities. *MA* is not bound to any rules, laws, standards, or regulations; it aims to provide information and analysis to internal stakeholders (Lal, 2009).

Cost accounting classifies and summarizes the cost data of organizations. It employs a quantitative approach aiming to determine the cost of production. By doing so, it determines, allocates, and distributes costs by taking into account past and present data. Therefore, cost accounting focuses on short-term planning and internal control. *MA* provides both financial and non-financial information, displays a qualitative and quantitative approach, and aims to impart and determine the effects of costs. It focuses on both long-term and short-term planning (Drury, 2015).

1.2.2 Controlling

In German-speaking countries, *MA* is known as internal accounting (*Interne Unternehmensrechnung*), cost accounting (*Kostenrechnung*), and controlling. Contrary to the broadly accepted definition of *MA* formulated by the NAA and CIMA, a comparable definition does not exist for controlling. Its definitions and interpretations are characterized by great diversity. In fact, the literature continuously discusses the scope, boundaries, scientific framework, and most promising methodologies of controlling (Ewert and Wagenhofer, 2007). Yet, a universal definition cannot be found in the literature (Hoffjan et al., 2009).

Most of the definitions available for controlling focus on the coordination function, which is associated with planning and control, information, delegation, performance measures, and incentives. Other important functions are decision-making support and safeguarding managerial rationality (Hoffjan et al., 2009).

FA and controlling have been strictly separated in German-speaking countries. Hence, controllers are usually not involved in *FA*, nor in financial reporting or tax planning. Controlling is based on a very detailed cost accounting to extract necessary information (Ewert and Wagenhofer, 2007).

Comparing controlling with the definitions of MA, it becomes clear that MA is defined in a broader functional context. However, definitions of controlling are characterized by a greater generality.

Both MA and controlling have in common that the responsibility of management accountants or controllers is to support the management with relevant information to promote objective and fair decision-making.

2 Methodology

2.1 Choice of countries

My master thesis concentrates on Germany and China for various reasons. Firstly, the bilateral trade between Germany and China was worth €154 billion in 2014. China is Germany's third most important trading partner worldwide, and Germany is China's sixth. Companies from both countries are highly invested in each other's state of origin (Hanemann and Huotari, 2015).

In 2014, 5,200 German companies were active in China, employing over 1.1 million Chinese employees and had cumulative foreign direct investments (FDI) of €48 billion until 2014. Between 2010 and 2014, its FDI amounted to €2.1 billion annually. Eighty-nine percent of German companies are invested in by wholly foreign-owned companies (WFOE), joint ventures (JV), or holdings (German Chamber of Commerce in China, 2015, 2016). China is also highly engaged in Germany. In 2014, China controlled 270 German companies and had cumulative FDIs of nearly 7 billion EUR with FDIs of 1.5 billion EUR in 2014 (German Chamber of Commerce in China, 2015, 2016; Hanemann and Huotari, 2015).

Secondly, Germany and China are the economically leading countries in the EU and Asia respectively. Many studies have shown a significant influence of German MA on several other countries which underpins its global importance (Blake et al., 2000). Currently, China is the second largest economy and could potentially become the largest economy by 2020, which demonstrates its fundamental importance with regard to MA as well (IMF, 2016).

Thirdly, at the initial stage MA of both countries were influenced by the US, among others. Comparing the same influence allows for a clearer analysis of consequences (Chow, 2007; Göthlich, 2007).

2.2 Research question

CMA studies between Germany and China are essentially nonexistent. The literature suggests that a descriptive approach can be seen as a starting point for further research to subsequently address heuristic and pragmatic objectives.

A descriptive approach encompasses the analysis of the dissemination of MA and the identification of differences and similarities between the practices in both countries. Key topics include MA techniques, role perceptions, and other conceptual factors.

A heuristic approach analyzes the underlying causes of identified differences and similarities. Hoffjan et al. (2009) point to three main influences: cultural influence, economic background, and educational influence.

Based on the descriptive and heuristic approach, this thesis primarily seeks to answer the following question:

What degree of dissemination, differences, and similarities as well as underlying influences characterize MA and controlling in China and Germany?

For this purpose, the *first step* is the categorization of the conceptual dissemination in the two countries. Based on this, differences and similarities are identified and explained.

In the *second step*, the following three questions are addressed for Germany and China:

- What economic influences affected the development of MA and how?
- What educational influences affected the development of MA and how?
- What cultural influences affected the development of MA and how?

In the *third step*, for each of the above-mentioned influences, possible future implications for the MA development are derived.

Although ongoing globalization studies have indicated a convergence of MA practices (Sheridan, 1995; Shields, 1998), sufficient empirical evidence does not exist to prove this

theory (Endenich, 2012). Many studies address differences across nations in a variety of categories, such as culture, techniques, and role perception. Despite the preponderance of Anglo-Saxon countries addressed in comparative studies, empirical evidence for other Western European and developing countries exists as well. As a result, even on a regional level differences can be found. Therefore, it is reasonable to assume that between Germany and China differences in MA are existent as well.

2.3 Research design

This master thesis uses a traditional literature review to develop a CMA analysis between Germany and China. Hence, the published work concerning MA in both countries will be examined, critically summarized, and evaluated.

After the analysis of the historical dissemination in each country, the contemporary spread will be categorized. Afterwards, differences and similarities will be identified and explained in more detail.

Subsequently, the economic, educational, and cultural influences will be analyzed in order to explain the previously categorized dissemination and conceptual differences and similarities between both countries. In the end of the analysis of each influence, implications for future MA development are derived.

Since virtually no CMA studies between Germany and China exist, studies covering only one of the two countries serve as the main source material.

To approach the topic, the first step is to develop a framework for categorizing the relevant literature. The very few articles and studies focusing on CMA in Germany and China up to the present are far from representative and only describe the topic in a broader sense. In order to obtain an overview of the relevant literature analyzed in this master thesis, studies and articles were grouped into four categories, the first three of which are equally relevant, and the fourth is of subordinate relevance.

Studies in the first category focus on a historical overview of MA in either China or Germany. Hence, studies separately analyze the evolvement of national MA from both countries.

Studies of the second category either focus on the conceptual structure of MA in China or Germany. Hence, studies analyze the concepts of national MA in both countries separately.

In the third group, studies focus on the influences and determinants that impact country-specific developments and characteristics of MA. Studies including both Germany and China are prioritized, followed by comparative studies covering at least one of the two countries and studies solely describing determinants and influences in one of the countries. Thus, the comparative element is highlighted in this category's literature.

In the fourth group, studies specifically deal with CMA. Although these studies do not explicitly cover the practices of China and Germany, meaningful cross-references could be included or derivations from observations could be made. Also, these studies serve to establish the structure of this thesis.

3 Development of Management Accounting

3.1 Origin and subsequent dissemination

In the following, MA in China and Germany will be depicted in the context of history. To initiate the analysis for each section, a short summary of economic and political changes relevant to the development of MA practice is provided. Subsequently, the conceptual development of both practices is addressed.

The aim of this chapter is to create a common understanding of how MA in both countries has evolved in the light of political and economic developments. In the end, a categorization of the dissemination based on the adoption of certain instruments and techniques is performed.

3.1.1 China

Chinese MA has a long historical background, dating back over 4,000 years. Until 1949, various MA practices were in place, such as specific control methods and financial management theories and principles (Chow et al., 2007).

However, after the formation of the People's Republic of China, the old MA system was substituted by a new system modelled on the one applied in the Soviet Union.

This chapter emphasizes the period starting in 1949, which can be seen as the beginning of the new MA practice in the People's Republic of China. Generally, there were three major phases between 1949 and today upon which the structure of this chapter is based: (1) MA practice from 1949 to 1977, (2) MA practice from 1978 to 1997, and (3) MA practice from 1997 to the present.

First phase: MA practice from 1949 to 1977

The first stage characterizes MA under a planned economy system. At the end of the Chinese Civil War (1946–1949) the economy was on the verge of collapse – suffering from high inflation, shortage of materials and commodities, production capacity, and social uncertainty. Politically, as a consequence of the Chinese Communist revolution, the People's Republic of China was formed, accompanied by a centrally planned and controlled socialist economy. One of the actions undertaken by the new centralized government was to reform the broken economy with the “Decision Unifying Fiscal and Economic Work.” It established a centralized fiscal revenue stream, expenditure stream, material distribution, and cash-flow control (Chow et al., 2007).

The planned economic system was mainly adopted from the Soviet Union as a primary medium for resource allocation. All profits or losses borne by state-owned companies (SOE) were transferred or offset by the state (Wu et al., 2007). Until 1978, SOEs clearly dominated China's economy, and literally no independent entity existed (Xianzhi et al., 2011). Decisions about material supplies, production, distribution, consumption, product planning, and cost targets were completely managed by governmental planning bodies. This also accounts for the provisions of funds covering the cost of the replacing equipment or financing expansions. The functions of companies were limited to the production of a given product and monitoring productivity as well as technical efficiency. Thus, the only object of control was the completion of allocated production quotas (Xianzhi et al., 2011). This in turn meant that the managers of SOEs had virtually no decision-making authority, nor any responsibility for their economic performance.

Between 1949 and 1978, two major developments in Chinese MA occurred (Wu et al. 2007):

1. The build-up of cost accounting systems for different industries
2. The implementation of cost accounting techniques and methods

The build-up of cost accounting systems in different industries was rooted in the establishment of a “business accounting system” due to the governmental “Decision Unifying Fiscal and Economic Work.” The business accounting system followed a simple agenda (Xiang, 1999):

1. Clarify the relationship of companies and the state in terms of accounting and financial management
2. Create an accounting and financial management system

Starting with state-owned railway companies, the agenda was rolled out from one industry to another until completion in 1957. Henceforth, each firm had to prepare its own production and financial plans and seek the government’s approval for them. New requirements for companies encompassed a focus on factory cost control, technology management, and the establishment of financial cost and management norms in order to create production, operation, financial, and cost plans – similar to a master budget.²

Many companies built up a three-level business accounting system consisting of a factory level, workshop level, and group level. Groups were cost centers at the lowest level. They were responsible for producing assigned quotas and achieving cost targets. Cost centers lacked the authority to price or sell goods. They did not have any decision-making authority nor economic responsibility. Table 2 summarizes this relationship.

Table 2: Responsibility Accounting in a state administrated management system

Characteristics	State-administrated management system
Decision-making authority	None in functional areas
Management economic responsibility	None
Accounting responsibility center	Cost Center

Source: own representation based on Skousen and Yang (1988).

² Master budget: the aggregation of all lower-level budgets produced by a company's various functional areas; it also includes budgeted financial statements, a cash forecast, and a financing plan.

The implementation of cost accounting techniques and methods is essentially comparable to the Western MA approaches of job order costing and process costing. Job order costing was based on different cost objects, such as a group or batch of products. Process costing was applied in terms of parallel process costing³ and sequential process costing⁴ (Ji, 2001).

Yet, the question remains as to what extent the implemented cost accounting system truly drove efficiency. Managers had only very limited decision-making authority, no influence on prices, nor any incentives to drive performance. It is also interesting that cost-volume-profit analysis had already been introduced in the literature in the 1950s, but due to the lack of managerial decision-making authority it was only implemented 30 years later (Yang, 1999).

Second phase: MA practice from 1978 to 1997

In 1978, the economic reforms implemented in China proclaimed an "open to the outside world" policy. The government had realized that the collectivism approach that resulted from the Civil War was having severe negative consequences on the overall economy. The gap between the society's material demand and the country's underdeveloped means of production became increasingly problematic.

Hence, open-door policies, mixed (state and private) ownership, and marketization were introduced. China transformed from a planned economy into a planned commodity economy and finally a socialist market economy. During the Fourteenth National Congress of the Communist Party of China (CPC) in 1992, the basis for the new socialist market economy was determined (Peiyan, 2012).

Henceforth, *SOEs* were continuously given more independence and autonomy, which comprised of a partial retention of profits and depreciation and other managerial functions. The new structure led to the Internal Economic Responsibility Systems, which

³ Parallel process costing: cost proportions of finished goods are calculated by each production step and then transferred to finished goods.

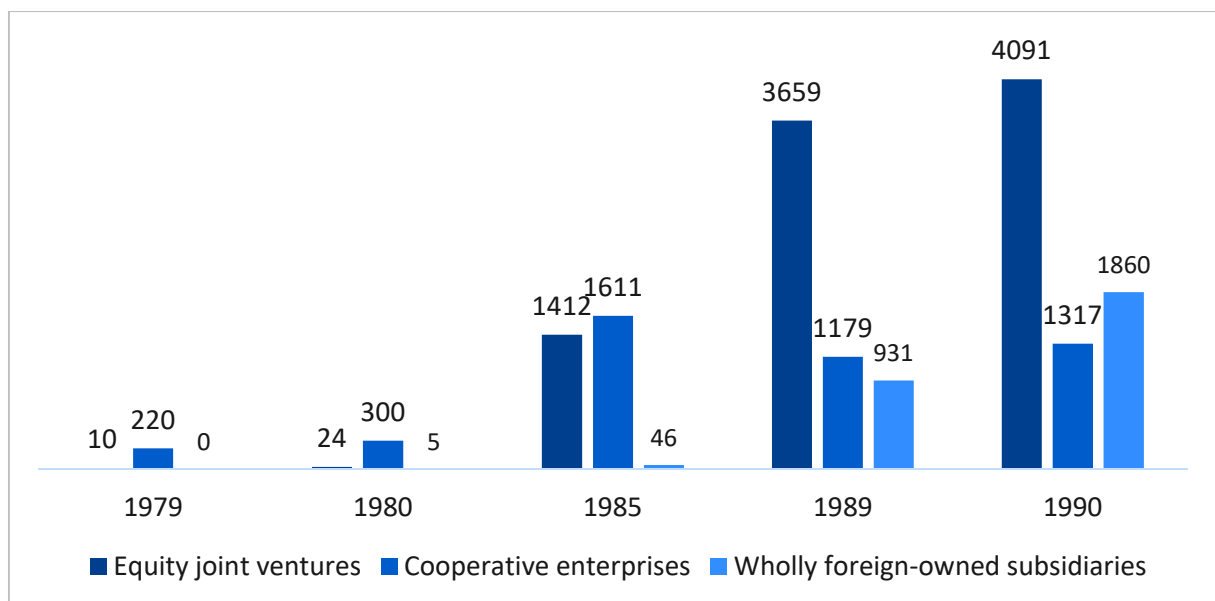
⁴ Sequential process costing: costs of semi-finished goods roll over to the next stage where the new costs are added.

transferred the economic responsibility of companies to different managers and departments situated at different organizational levels (Chow et al, 2007).

Over time, most small state-owned companies were sold. By the late 1990s, private firms already employed 17 million people. Moreover, in 1990 security markets were set up in Shanghai and Shenzhen. Only one year later, 3,000 joint stock companies were listed as operating. The state still owned the majority of stocks, but other companies, individuals, and foreign investors held considerable stakes as well. Within the private sector, a new need for an intensified and more complex management accounting system emerged. Profits needed to be determined more accurately to serve the new shareholding system (Scapens and Yan, 1993).

Another consequence arising from the new economic reforms was the increase of FDI. Figure 1 illustrates the continuous rise of foreign equity JVs, cooperative companies, and wholly foreign-owned subsidiaries.

Figure 1: Development of FDI



Source: own representation based on Chen et al. (1995).

The whole accounting system was characterized by change. Every company was obliged to appoint a CFO or chief accountant, accounting was granted with the highest legal of recognition, and in 1988, the China Institute of Certified Public Accountants (CICPA) was founded (Chow et al., 2007).

With the reformation of the economic system in 1978, the diffusion of Western MA began (Wu et al., 2007). This diffusion can be split into three phases:

1. Late 1970s to early 1980s: theoretical diffusion in literature
2. 1980s: implementing the newly learned Western MA techniques
3. 1990s: questioning the suitability of Western MA techniques for China

The theoretical diffusion consisted of the introduction of Western MA theories and practices in textbooks, magazines, and academic papers. In fact, most of the theoretical foundations were taken from American textbooks and accounting journals (Skousen and Yang, 1988).

During *the early 1980s* the most commonly *implemented and applied* MA practices were CVP analysis, the contribution margin concept, and responsibility accounting. Companies and managers increasingly gained more authority and responsibility as the development towards the establishment of a socialist market economy continued.

Table 3 illustrates how responsibility accounting systems developed through the influence of economic reforms. State-administrated management systems, explained in the previous chapter, served as a starting point. Decision-making authority has continuously shifted from the state towards companies and managers. Companies were allowed to sell at least some portion of goods independently and keep a portion of the profits.

Subsequently, Western profit center accounting was introduced to China. This allowed for a meaningful application of CVP analysis and contribution margin concepts. However, the definition of profit was still different from that in a free market economy. The state still controlled the majority of commodity prices. Also, investment center accounting was known but rarely applied in China. The problem was that capital expenditures were still largely controlled by the government and increases in profit due to increased investment could generally not be attributed to the efforts of company management (Skousen and Yang, 1988).

Moreover, since profit in the context of free markets did not exist, quantitative output was the primary goal underlying responsibility accounting. Chinese responsibility accounting

also displayed a clear group focus compared to an individualistic perspective in Western systems.

Table 3: Development of responsibility accounting and management systems

Characteristics	State-administrated management system	Increased autonomy/independence	Increased responsibility
Decision-making authority	None in functional areas	<ul style="list-style-type: none"> • Production planning • Portion of profits retained • Purchase of industrial goods at exhibitions • Bonuses for workers • Price negotiations • Sales to domestic buyers • Development funds 	<ul style="list-style-type: none"> • Market-oriented production planning • Profits retained • Purchase industrial goods at exhibitions • Bonuses for workers • Price negotiations • Direct sales to overseas buyers • Co-production with other companies • Sales and purchase contracts negotiated with other companies • Election of plant managers
Management economic responsibility	None	None	Full
Accounting responsibility center	Cost Center	Profit Center	Investment Center

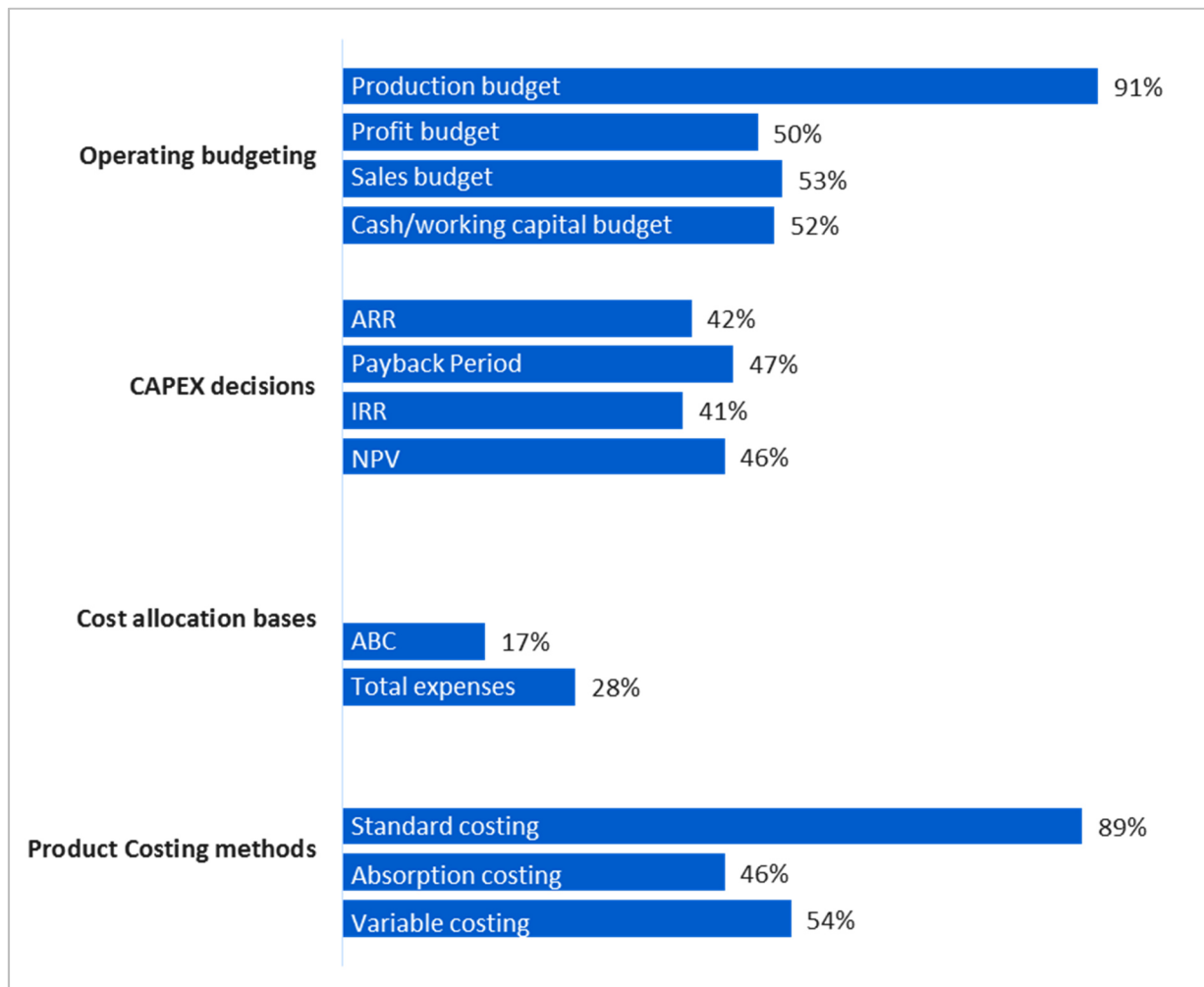
Source: own representation based on Skousen and Yan (1988).

Another specific feature in terms of responsibility accounting emerged during this period. Internal banking systems for inter-organizational transactions were established within companies. These were one of the rare China-specific features developed at this time (Chow et al., 2007).

From 1978 to 1997, various studies examined the adoption and diffusion of new Western MA practices. O'Connor et al. (2004) found that cooperation with foreign partners, such as foreign equity JVs, significantly drove the adoption of Western MA. Between 1990-1993, Firth (1996) surveyed 1,258 companies (456 Sino-foreign JVs, 432 Chinese JVs partners, and 370 SOEs). The results are illustrated below in figure 2. Firth (1996) also incorporated the effect of cooperation with foreign partners by including foreign JVs.

Although, the MA techniques listed have no claim to being exhaustive, it is clear that the economic reforms had a significant impact on the application of the new MA techniques.

Figure 2: Application of MA techniques and methods in 1996



Source: own representation (average) based on Firth (1996).

Moreover, the government developed a “State-owned Capital Performance Measurement System” consisting of 32 individual measures divided into basic indicators, moderating indicators, and expert review ratios. The system can be compared to the balanced scorecard (BSC) as a new trend towards systematically integrated performance measurement systems.

In addition to the government-developed MA tool, another Chinese MA peculiarity emerged during this time. Handan Iron & Steel Co. Ltd. implemented a system called “market simulation-based accounting and cost negation.” It was especially successful as it incorporated similar components as target costing (Chow et al., 2007).

The third phase in the 1990s was characterized by practitioners and researchers questioning the suitability of Western MA techniques for China. There even appeared to be a lack of interest in MA.

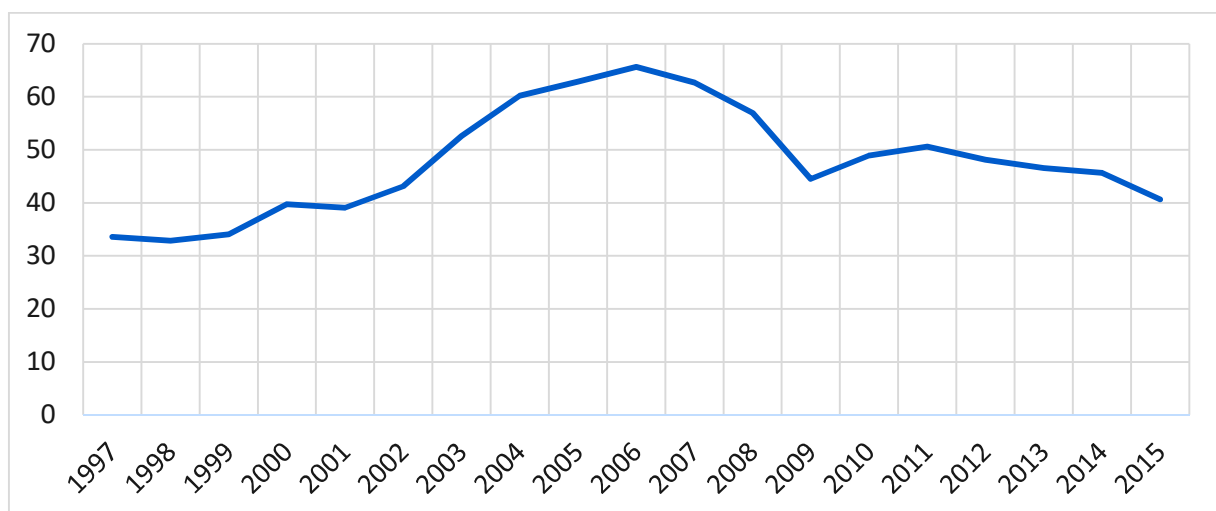
Third phase: MA practice from 1997 to the present

Although China developed impressively after the economic reforms that took place in 1978, some major areas of concern remained. In particular, SOEs and the banking system were objects of concern. Nearly half of all SOEs were loss-making at the end of the 1990s. Chinese leaders increasingly realized that the government should not be involved in every sector of the economy (Zhang and Freestone, 2013).

In 1998, the National People's Congress confirmed the plans proposed by the National Communist Party Congress about either selling, merging, or closing the majority of SOEs. The transformation was another significant step towards a more open Chinese economy. Also, it prepared China to fulfill the requirements of the World Trade Organization (WTO) to become a new member in 2001.

Consequently, the combined share of imports and exports in relation to GDP rose from 33.58% in 1997 to 60.22% in 2004. After the worldwide financial crisis of 2008, it decreased to 44.50% and remained relatively constant for the following years. The development can be observed in figure 3.

Figure 3: Imports and exports in % of GDP



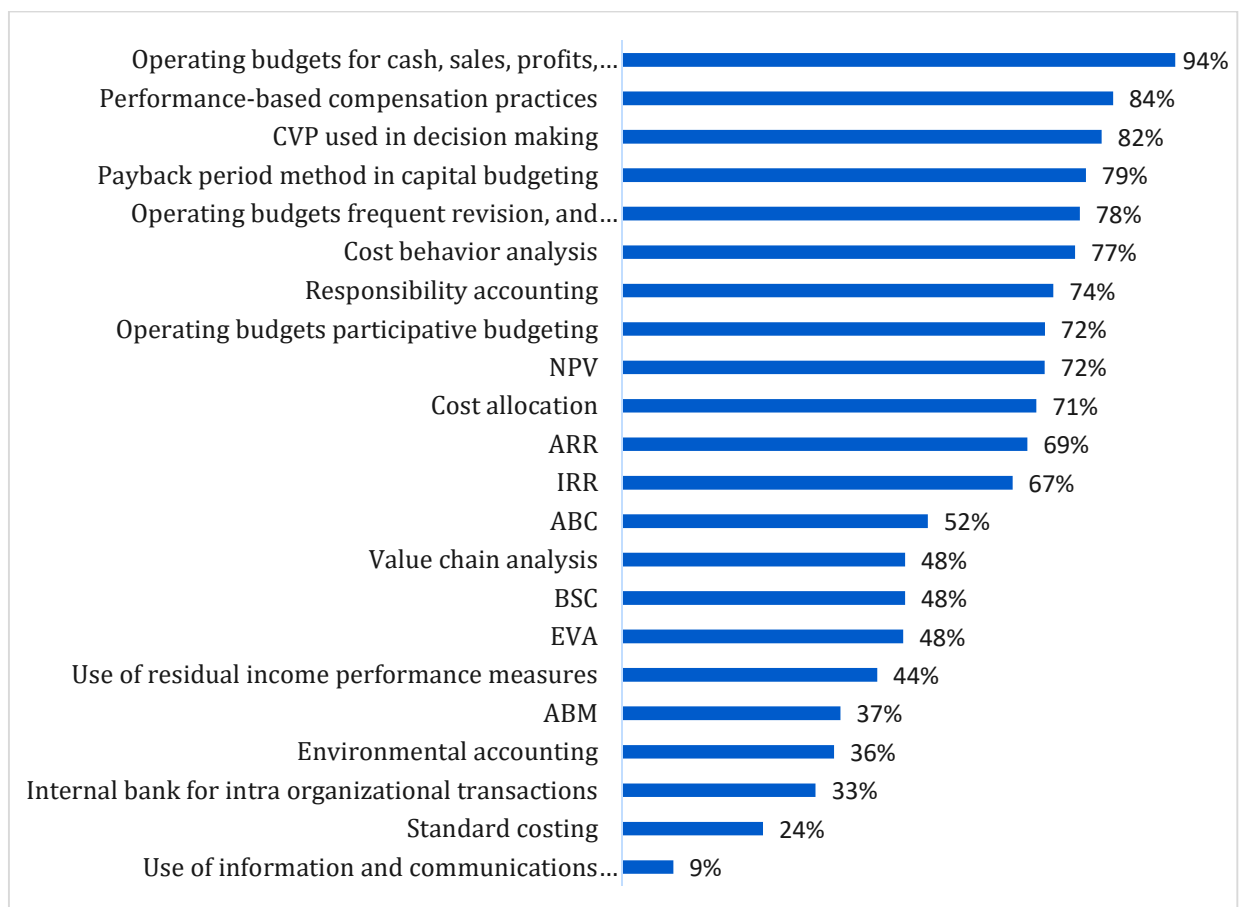
Source: own representation based on *The World Bank*, 2017.

A similarly strong increase can be observed in the use of foreign capital and in the ratio of market capitalization to GDP of listed companies (World Bank, 2017). Moreover, Lardy (2014) found that the share of China's gross industrial output resulting from state-owned companies amounted to approximately 25%, which is a significant drop from 75% in 1978.

Chow (2007) showed in a survey study that the application of MA practices has further progressed between 1997 and 2004. A comparison between Firth's (1996) survey study and Chow's (2007) illustrates a considerable increase in nearly all measures. Only standard costing constituted an exception and ran counter to the remaining techniques. However, this could be explained by an increased adoption of target costing as a more modern MA technique in this field.

Figure 4 also indicates that so far, MA practices in China strongly focus on internal control for increasing efficiency and effectiveness. This trend can be observed throughout the historical provisions of this chapter.

Figure 4: Chosen MA practices in terms of adoption in % in 2004



Source: own representation based on Chow et al. (2007).

A focus on the creation of firm value and strategy in MA had only started to emerge. Value-based techniques such as economic value added (EVA) and strategic MA techniques such as the Balanced Scorecard (BSC) or competitor analysis exhibited only moderate levels of adoption. However, it is impressive that the adoption rates of BSC and EVA were already close to 50% in 2004, since the initial Western adoption only appeared in the 1990s.

As for contemporary MA practice in China, in 2012, the Chartered Global Management Accountants (CGMA) investigated the design and implementation of performance measurement systems (PMS) based on EVA in Chinese SOEs. They concluded that an “evolutionary change is achieved [...] by staged performance measurement system development in which economic value added is introduced gradually.” Based on case study analysis, the CGMA found that the EVA introduction equally improved awareness of the cost of capital in investment appraisal, created greater willingness for investment in research and development, and improved asset operation efficiency. Moreover, value orientation was recognized in SOE managers’ mindsets but not yet in their behavior. Simultaneously, the adoption of the BSC progressed. Sheng et al. (2008) and Zeng and Luo (2013) have documented a significant increase in the implementation of BSC in recent years.

Literature analyzing strategic MA and value-orientated MA beyond EVA and BSC appears to be limited to several individual case studies. For example, Steve Fong (2011) examines the use of strategic MA during various life-cycle stages of a social networking site service company in China.

Another factor that must be taken into consideration is that most of the research conducted and included in this thesis focuses on the MA of SOEs, JVs, and listed companies in China. Min (2007) states that for various reasons, listed companies and mainland companies apply accounting management to a certain extent only in economically developed regions. Zheng (2012) supports this and concludes that apart from SOEs, JVs, and listed companies, MA is not widely used in China. In particular, SMEs in the western and central parts of China lack MA practices. Research performed in this field is rare.

3.1.2 Germany

In the following, not only Germany itself but selectively all major German-speaking countries (Switzerland, Austria, and Germany) will be investigated to emphasize certain developments. Nonetheless, the historical overview mainly encompasses Germany.

In Germany, MA only emerged in the 1970s. However, its origins lay in the 14th century. These practices mainly concerned industrial and factory accounting and can be seen as a preliminary step of modern cost accounting, which started to develop in the 19th century (Schweitzer, 2005).

The development of German MA is strongly associated with a deeply rooted cost accounting practice. Due to this, the historical overview will begin with the initial emergence of modern cost accounting. The chapter is divided into three different parts: (1) MA before 1945, (2) MA from 1946 to the early 1970s, and (3) from the early 1970s to the present.

First phase: MA practice before 1945

Cost accounting in Germany emerged in the beginning of the 19th century. At the same time, the industrialization took place in Germany. In contrast to many other European states, the economic status of Germany was lagging. The country was divided into various smaller states and principalities which hindered the progress of economic development of the mainly agrarian economy (Schildbach, 1997).

1848/1849 marked the beginning of the industrial revolution's dynamic phase. In contrast to the pioneering role of the textile industry in Great Britain, in Germany heavy industry as well as the railways and the building industry played a predominant role.

The construction of various new plants throughout the country had a lasting economic impact and revolutionized the society. The aristocracy was displaced in all societal key positions and replaced by members from the educated middle class and entrepreneurs. For the first time, a modern principle of performance was asserted. Henceforth, individual performance rather than birth drove social prestige and material wealth.

Apart from industrialization, this phase was marked by the First and Second World War as well as the Weimar Republic. In 1918, the First World War ended and the Treaty of Versailles was imposed on Germany one year later. Moreover, in 1918 the first parliamentary democracy was established in Germany, but it ended with the appointment of Adolf Hitler as Chancellor in 1933. The post-war period was characterized by a destroyed economy, hunger, a general shortage of all goods, and occupation by the victorious powers.

Compared to Anglo-Saxon countries, Germany was a late bloomer when it comes to the initial development of cost accounting. The Anglo-Saxon countries had finalized their cost accounting system by the end of 1925 (Kaplan, 1984). The late start in Germany can be traced back to the slow industrialization process and the absence of major enterprises such as the railway companies in the US. The race to catch up with the Anglo-Saxon countries started with the foundation of the German Empire in 1871.

According to Göthlich (2007), the subsequent development can be divided into three parts:

1. 1871-1918: The period of catching up with the Anglo-Saxon countries until the end of the First World War
2. 1918-1933: The period of Schmalenbach (Eugen Schmalenbach, 20 August 1873 – 20 February 1955, German academic and economist in the fields of Business Management and financial accounting) during the Weimar Republic
3. 1933-1945: The period of anchoring the current practice within the controlled economy

The catching-up period was characterized by the illustration of cost accounting techniques for individual problems. Companies were afraid to share their cost accounting systems, which hindered a fast diffusion of the practice. Hence, a scientific basis was only created at the end of the 19th century. The major influencer was Eugen Schmalenbach, a professor at the University of Cologne as well as an entrepreneur. Schmalenbach developed solutions for concrete business-related problems. His book *Buchführung und Kalkulation im Fabrikgeschäft (Accounting and Calculations in Factories)* introduced the idea of today's broadly applied contribution margin accounting (Deckungsbeitragsrechnung). However, the idea of fixed and variable costs, or primary and secondary costs, were already known

in the US for nearly 70 years. Another element of his book dealt with cost and price determination. For this purpose, Schmalenbach introduced the prime costs principle (*Selbstkostenprinzip*) to determine what the minimum price for a product should be. Other principles developed during this period were direct and indirect costs as well as the enforcement of the causation principle for allocating indirect costs on products (Männel, 1992; Göthlich, 2007).

The period of Schmalenbach was characterized by an intensive exchange of theory and practice. On the one hand, this implied addressing existing problems in practice to develop innovative solutions in theory. On the other hand, it also meant implementing developed solutions with the greatest scope possible. During this period, Schmalenbach standardized the definition of cost⁵ and created an account framework (Kontenrahmen) for the constantly increasing variety of accounts.

Afterwards, a distinct feature of German cost accounting was established: the final separation of FA and cost accounting. To the present day, in a majority of German companies two separated systems of accounts exist as data sources for FA and MA (Ewert and Wagenhofer, 2007).

Additionally, cost theory developed by setting up different cost curves in relation to influential factors such as the level of employment (Männel, 1992, Göthlich, 2007).

In 1933, with the seizure of power by the National Socialists, the *third phase* started. The government significantly intervened in the economy to create readiness for war. The plan incorporated the standardization of FA and cost accounting as well as the accounts framework throughout the economy. For cost accounting, the following standards were set:

- Cost system structure: separation between cost type accounting (Kostenartenrechnung), cost center accounting (Kostenstellenrechnung), and cost unit accounting (Kostenträgerrechnung)
- Standardized cost recording, cost valuation, and cost allocation

⁵ Cost: valued, proper target related consumption of goods of an accounting period or reference object

- Standardized master summary sheet (Betriebsabrechnungsbogen) and assessment options for cost accounting
- Scheme for determining prime costs

The scheme for determining prime costs already included imputed costs (kalkulatorische Kosten) which also included imputed interest⁶ (kalkulatorische Zinsen). Imputed interest reflects opportunity costs and took on a key role in German cost accounting, especially considering the fact that it was already implemented in practice in the early 1940s. The logic is similar to the later EVA technique developed by Stern Steward, which aims at increasing shareholder value as a value-oriented performance measure. Indeed, imputed interest aims for the same thing, and already became a standard of German cost accounting in the 1940s (Männel, 1992, Göthlich, 2007).

Second phase: MA practice from 1946 until the early 1970s

The second phase is characterized by post-war history. Germany was divided, and Western countries, under the leadership of the US, and Eastern countries, under the leadership of the Soviet Union, were entangled in the Cold War until 1989.

From an economic point of view, Keynes's demand-orientated economic policy dominated Western countries. In particular, the Marshall Plan, a state development program, was one of the major factors reinvigorating the West German economy, whereas the forced dismantling of the East German industry led to the exact opposite. The rapid economic growth in the 1950s and 1960s characterized the German *Wirtschaftswunder* (economic miracle). Also, Germany grew closer to the rest of Europe again, while further intensifying economic relations with the US.

In a broader economic context, the theory of industrial organization was established in Germany during this period. It examines the relations of firms and markets and enabled large companies to rise by gaining high market shares through leveraging economies of

⁶ Imputed interest: Costs for the utilization of the operating capital. Imputed interest must be differentiated from interest on borrowed capital. In German cost accounting the source of capital and funding is irrelevant. In particular, the capital provided by the entrepreneur himself should be paid interest on adequately. As such interest is not considered in the P&L it has to be incorporated in the cost accounting system

scale. The German electricity industry, with companies like Siemens, AEG, and Osram, was exemplary of the new trend.

Moreover, the market structure changed as the information technology and automotive industries became new key industries in Germany. Consequently, the economy became more capital- and knowledge-intensive, especially in terms of production and R&D.

As Germany's relationship with the US intensified after the Second World War, many German managers and scholars traveled to the US in the 1950s and 1960s. They came into contact with American management accountants and realized that German cost accounting and FA were not management-orientated like American MA. American management accountants incorporated accounting figures into the management process, which took a pivotal role in decision-making processes (Horváth, 2009).

In the 1960s, MA was spread quickly throughout Germany. This began with the question of how cost accounting data can be incorporated in the management process, as demonstrated by the American MA. In the beginning, operational elements prevailed. Positions for management accountants were first introduced in subsidiaries of US companies in Germany, and large German companies quickly followed suit (Endenich, 2012; Horváth, 2009).

During this phase, Gutenberg (Erich Gutenberg, 13 December 1897 – 22 May 1984, influential German economist) was a major influencer. He formulated cost functions and developed a cost theory which was the basis for the establishment of standard costing⁷ (Standardkostenrechnung) and marginal planned cost accounting⁸ (Grenzplankostenrechnungen).

Kilger (Wolfgang Kilger, 5 of February 1927 – 9 of August 1986, German academic focusing on marginal planned cost accounting) and Plaut (Hans-Georg Plaut 11 of

⁷ Standard costing: part of full cost accounting (no differentiation of fixed and variable costs). Instead of assigning the actual costs of direct material, direct labor, and manufacturing overhead to a product, the expected or standard cost are assigned to balance out price fluctuations.

⁸ Marginal planned cost accounting: part of direct costing (differentiation between fixed and variable costs) and presents the linear cost development in relation to output. It is an instrument for short-term planning and organizes the monitoring of analysis between planned and realized costs. Therefore, responsibilities within cost centres can be determined and deviations can be analysed.

February 1918 – 2 of January 1992, German management consultant known as the founder of marginal planned cost accounting) further developed both methods and “translated” them into an own enterprise resource planning (ERP) software and later SAP, which drove greater adoption throughout the German economy. Thus, the framework for using cost accounting as a decision-making support function, particularly for short-term decisions, was established under the umbrella German MA (Bungenstock, 1995). Afterwards, the contribution margin analysis, another tool to support the management’s decision-making process, was refined by distinguishing various kinds of fixed costs (Göthlich, 2007).

In the course of time, scholars addressed the problems in cost accounting caused by a more capital- and knowledge-intensive industry. In 1971, Staubus (George Staubus, 1927 – 21 March 2014, American academic in the field of accounting) developed a method called activity cost accounting (ABC), in which costs are allocated based on the activities performed. Following this method, Horváth (Péter Horváth, 3 February 1937, Controlling expert, academic, and management consultant) developed an adjusted version called process cost accounting (Prozesskostenrechnung) specifically for the German market (Göthlich, 2007).

Yet, from 1945 until the early 1970s, the usage of cost accounting for management purposes such as planning and budgeting, management control, and decentralization issues – ensuring an efficient allocation of resources to increase productivity – were still prevailing within German MA. Hence, the scope of MA was not yet extended well beyond the traditional purpose of cost accounting.

Third phase: MA practice from the early 1970s to the Present

In 1973 and 1979 two major oil crises occurred, caused by the US’s support for Israel during the Yom Kippur War (Smith, 2006). Globally, this period was characterized by economic strain.

Throughout the third phase, globalization became increasingly important. National as well as international competitive pressure required new flexibility and rapid decision-making from firms in order to remain successful in business. Additionally, globalization created a closely interlinked, multilateral, and more complex system. The more complex

the global economic system became, the more difficult it was to understand and influence it.

Both countries and companies were affected by the new economic environment. For a limited period of time countries turned to Milton Friedman's monetarism as a new rationale for economic policy. Companies abandoned traditional management strategies based on the industrial organization theory and returned to collaboration in cooperation and partnerships with the objective of complementing each other's competencies. Consequently, loose business ecosystems emerged, aiming to balance out the new instability within the market (Endenich, 2012).

On a political level, after 1990 the world seemed to have reached a stable and clearly politically segmented environment. The end of the Cold War meant a conclusion to decades of confrontation. By October 3, 1990, the two German states were reunited as the Federal Republic of Germany.

The most recent market-shaping event was the global financial crisis in 2007/2008, followed by the European debt crisis. Both led to a significant economic downturn worldwide.

At the beginning of the 1970s, MA was present in essentially all major German companies, whereas the application in small and medium-sized companies was relatively lagging. This structure could still be observed in 1990, as illustrated in table 4.

Table 4: Development of MA positions in 1990

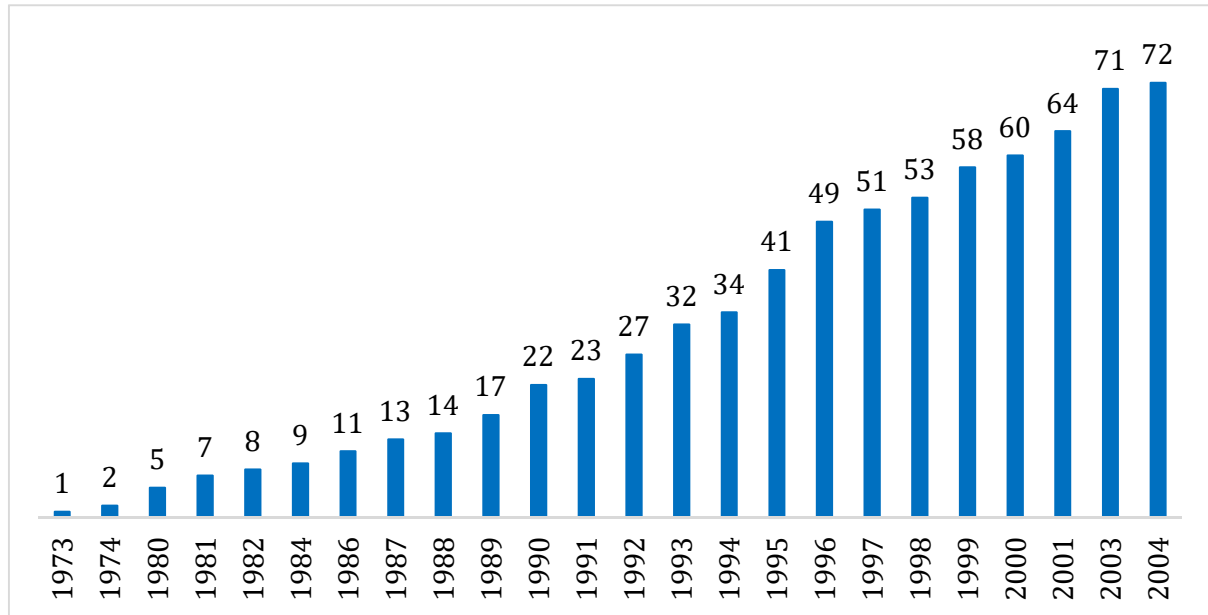
No. of employees	No. of companies	No. of companies with MA positions
0 – 199	99	53 (53.5%)
200 – 499	88	64 (72.7%)
500 – 999	35	31 (88.6%)
1,000 – 4,999	43	36 (83.7%)
5,000 – 9,999	12	11 (91.7%)
10,000 – 49,999	17	16 (94.1%)
Above 50,000	6	6 (100%)
All classes	300	217 (2.3%)

Source: own representation based on Küpper (1990).

In 1973, Peter Horváth became the first professor explicitly specializing in MA to hold a chair at a university. Henceforth, many MA-specific textbooks were published and new

journals originated, such as *Controlling* and *Kostenrechnung und Controlling* (Endenich, 2012). MA was increasingly recognized as a separate discipline and taught at universities. Figure 5 reveals the development of MA chairs at German-speaking universities,⁹ which already reached 72 chairs in 2004.

Figure 5: Development of MA chairs at German-speaking universities



Source: own representation based on Schäffer and Binder (2008).

During the 1980s, MA started to take on responsibilities beyond operational aspects to support the strategic planning process. Moreover, techniques from the US and Japan such as the BSC and target costing were “imported” (Endenich, 2012). The application of target costing shows that cost management, as part of the MA practice, was turning to a long-term perspective. The same accounts for integrated systems of financial control, such as the BSC, analyzed cause-effect relationships and offered a framework to evaluate the performance of managers before the market itself could punish them. In 1998, it even became standard to implement early warning systems to detect misconduct and mismanagement (Göthlich, 2007). Henceforth, MA could be split in two categories:

1. Operational MA – responsible for short-term decisions
2. Strategic MA – responsible for long-term decisions

⁹ German speaking universities refer to universities in Germany, Austria, and Switzerland

To reinforce the described development, Schäffer and Binder (2008) found that the content of articles in German journals concerning MA changed over the period between 1970 and 2003. This development suggests that starting from the mid-1980s, MA underwent a change and went beyond the operational function, approaching cost management and subsequently strategic MA.

Table 5 illustrates that by 2009, large companies widely used cost management techniques, in particular those displaying a strategic perspective such as target costing, benchmarking, and life-cycling costing. A more operational cost management approach can be observed in the increased application of process cost accounting. Moreover, the percentage of planned use shows likely increasing application in the future.

Table 5: Application of strategic MA techniques

Strategic MA techniques	Homburg, 2001 (medium-sized companies)	Kajüter, 2005 (large companies)	Held, 2009 (large companies)
Actual use			
Target costing	10%	55%	59%
Process cost accounting	2%	46%	59%
Benchmarking		90%	
Life-cycle costing	4%	26%	25%
Planned use (in % of non-users)			
Target costing		13%	10%
Process cost accounting		24%	8%
Benchmarking		36%	
Life-cycle costing		7%	12%

Source: own representation based on Homburg (2001); Kajüter (2005); Held et al. (2009).

Speckbacher et al. (2003) showed in a survey study in 2000/2001 among large German, Austrian, and Swiss companies that 26% of them had already implemented the BSC concept, whereas 13% currently plan to implement or are currently implementing it. Schachner et al. (2006) found several years later that the implementation rate had reached 35%.

Huber (2006) found that concerning strategic management SWOT analysis, competitive analysis and benchmarking are among the methods with the highest maturity and relevance, followed by Porter's five forces and scenario-analysis with medium maturity and relevance, and finally, customer satisfaction and market attractiveness analysis were evaluated with the lowest maturity and relevance.

Lux and Hauser (2006) showed that the most commonly mentioned strategic MA instruments by companies were KPI systems, SWOT analysis, and risk management approaches; followed by the BSC and early indicator systems; and finally economies of scale experiences and scenario techniques.

Schindlbeck and Diringer (2007) analyzed solely SMEs and demonstrated that 51% used strategic planning, which indicates that large German companies may exhibit considerably higher rates. Lux and Hauser (2006) found that in a combination of large companies and SMEs, 88% have a clear business strategy, indicating that a strategic planning process is performed.

Although all of the abovementioned studies reveal a slightly different picture of the current application of strategic MA in Germany, it becomes clear that a wide range of strategic MA instruments are already in place, and managers and companies see an increasing trend towards an even more strategic focus of MA.

Moreover, Währisch (1998) found dynamic methods of capital budget methods already prevailed in Germany at the end of the 20th century. The results of his study are illustrated in table 6.

Table 6: Capital budgeting methods 1998

Capital Budgeting (CAPEX budgeting)	Small companies	Medium sized companies	Large companies
Static methods	43.8%	74.5%	85%
Dynamic methods	59.5%	84.6%	89.7%

Source: own representation based on Währisch (1998).

Another form of MA in this phase was the emergence of value-based performance measures and incentives. Table 7 categorizes four dimensions of value-based measures. Moreover, it must be noted that the imputed interest already incorporated a value-based orientation decades ago in German cost accounting.

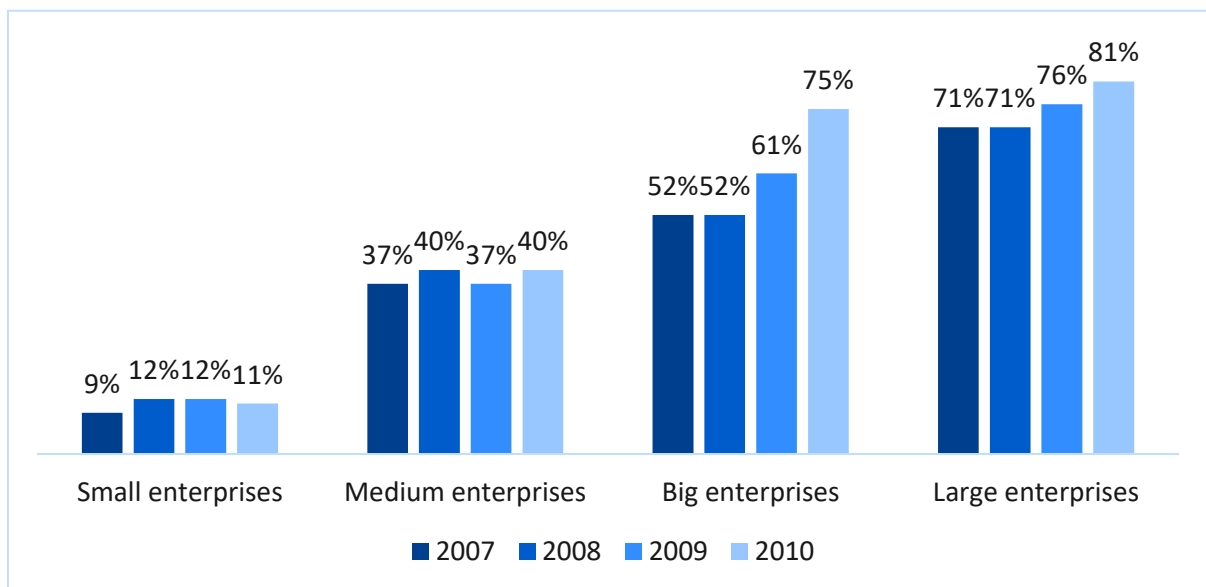
Table 7: Value based MA measures

Value based MA measures	Cash-flow based measures	Profit based measures
Absolute measures	Cashflow value added (CVA)	Economic value added (EVA)
Profitability measures	Cash flow return on investment (CFRoI)	Return on net assets (RONA) Return on invested capital (ROIC) Return on capital employed (ROCE)

Source: Langguth (2008).

The current spread of MA was detailed by Gitt et al. (2013) in a study analyzing the application of these four dimensions in Germany. Figure 6 illustrates that by 2013 value-based measures were widely spread across large companies, whereas the application of value-based measures decreases with size. One of the reason for this development can be seen in the lower capital market orientation of smaller companies.

Figure 6: Application of value based measures



Source: Gitt et al. (2013).

Moreover, Hauser and Panzau (2012) found that 74% of listed companies and non-listed large companies applied a strategic capital allocation within the planning process, which emphasizes the value and strategic orientation of German MA.

Nonetheless, the roots of MA are still deeply embedded in the German cost accounting practice (e.g. operational MA). Friedl et al. (2009) analyzed the current application of cost accounting systems in large German companies. They found that cost accounting systems

are not only widespread but also very detailed and sophisticated. The results in table 8 display a high percentage throughout all cost systems.

Table 8: Cost accounting systems in 2009

Cost accounting system	Application in %
Cost accounting systems	
Actual cost accounting	95.6%
Marginal planned cost accounting	91.1%
Differentiation of fixed and variable costs	86.7%
Contribution margin accounting	68.9%
One-level contribution margin accounting	8.9%
Multiple-level contribution margin accounting	48.9%
Multiple multiple-level contribution margin accounting	11.1%
Process cost accounting	31%
Cost type accounting	97.8%
Cost center accounting	97.8%
Cost unit accounting	62.2%
Operating income statement	84.4%

Source: own representation based on Friedl (2009).

Moreover, Becker and Baltzer (2009) demonstrated that the application of MA functions and instruments, including cost accounting, do not vary significantly between SMEs and large companies.

Another feature connected to German cost accounting and MA is the use of highly sophisticated information and communications technology (ICT). In line with widespread cost accounting, the diffusion of enterprise resource software is similarly far-reaching, amounting to 78.3% of SAP/R3 adopters in large German companies. More details can be extracted from table 9.

Table 9: Top 5 of software used in MA in large German companies in 2009

Software constant usage (top 5)	Application in %
SAP/R3	78.3%
SAP BW	45.7%
Individual Software	26.1%
Hyperion	10.9%
Professional Planer	8.7%

Source: own representation based on Friedl (2009).

The main accomplishment of MA in this period can be summarized as ensuring transactional efficiency. This means that MA must aim to balance information and aim

asymmetries which result from the interactions between two or more different stakeholders

3.1.3 Dissemination categorization

Now that the main features of the development of MA in China and Germany have been introduced, a categorization of the dissemination and instrumental comparison can be made. The focus lies on the contemporary practice, while the underlying reasons for the spread and emergence of differences and similarities are analyzed in Chapter 4.

The incorporated instruments and their adoption rates are summarized in table 13 and 14 in the appendix to provide a more comprehensive picture for the competitive analysis and categorization.

The International Federation of Accountants (IFAC) developed a scheme for the evolution of Western MA practices. The IFAC distinguished four phases of MA: (1) cost determination and financial control, (2) provision of information for management planning and control, (3) emphasis on reduction of waste in business processes, and (4) focus on the creation of firm value (IFAC, 1998).

Fiedler and Gräf (2012) developed very similar phases based on the development observed in Germany: (1) financial- and calculation-oriented approach, (2) information oriented-approach, and (3) management-oriented approach.

In the following, a combination of both is used to assess the spread of MA. In particular, the last phase of the IFAC scheme is extended by not only focusing on value-creation but also by adding a management orientation, which implies the shift towards a more strategic perspective as a means to utilize value creation.

1. Cost determination and financial control-oriented approach
2. Provision of information-oriented approach for management planning and control
3. Transition period for waste reduction in business processes
4. Management and value creation-oriented approach

Based on an analysis of the most recent application of MA instruments in both countries, differences and similarities as well as a categorization of the diffusion can be derived.

By comparing the instrumental usage of both practices in recent years, it becomes evident that *cost accounting* techniques are applied far more throughout the German economy than in the Chinese economy. The application rates in large *German companies* amounted to nearly 100% for various cost allocation techniques. Moreover, the application appears not to be limited to large companies, as SMEs show similar rates of use (Becker and Baltzer, 2009). Furthermore, in large German companies the use of SAP as a sophisticated ERP software is not only widely spread but also considered essential for the establishment of efficient and detailed cost accounting systems.

In *Chinese* listed companies, adoption rates for *cost accounting* such as cost allocations are considerably below 100% and SMEs are considered to exhibit even lower rates. Moreover, it is evident that the usage of ICT systems, such as ERP software, is lagging even more. I consider this to be one of the biggest barriers to the further development of MA and in particular for cost accounting in China. Several comments on the lagging availability of IT systems were found in the literature (Chow et al., 2007; Zheng, 2012). In particular, by taking into account the constantly increasing complexity of large companies in China, the application ERP systems appears to be of even greater importance.

It is interesting in regard to Chinese cost accounting in listed companies that the application of ABC and ABM is relatively high in terms of the overall application of cost accounting and even higher than the application of process cost accounting in large German companies, with values between 31% and 59%. ABC and ABM seem to be one of the most important cost accounting tools in China. In Germany, marginal planned cost accounting can be considered the most important cost accounting tool, especially in terms of short-term decision-making, with an adoption rate of close to 100%.

Decision-making support and planning techniques for medium and long-term investment decisions are equally widespread in both countries. The percentage of the application of dynamic capital budgeting methods is only slightly lower in Chinese listed companies (66.7%-77.2%) compared to large German companies (89.7%).

In terms of more *strategic-oriented cost management* techniques, both countries display a similar level of dissemination. For instance, target costing is widely used in large

companies in both countries: 59% in Germany and 64% in China. In China, product lifecycle accounting appears to be the most important technique for strategic cost management, whereas in Germany its application is limited. Also, Kaizen costing is widely used in China, whereas no use can be found in Germany. On the contrary, in Germany benchmarking exerts by far the highest influence in terms of strategic cost management.

A direct comparison of *strategic and value-creation MA instruments* is difficult. For instance, the BSC implementation in both countries is on a similar level, which appears to be particularly surprising for China. In Germany, the rate amounts to 35% and in China to 39%. In China, competitive analysis and environmental scanning exhibit moderate adoption rates. A comparable study for large German companies was not found. However, the high application rates of strategic planning in combination with the wide range of qualitatively named strategic MA instruments of German SMEs indicate that large German companies focus more on strategic MA than Chinese companies (Huber, 2006; Lux and Hauser, 2006; Schindlbeck and Diringer, 2007). This also accounts for the high percentage of adopters of strategic capital allocation in planning processes in Germany. Concerning value-creation, the rate of EVA adoption in China is surprisingly high, and other comparable performance indicators such as ROI and RI reveal similar rates of adoption. Nonetheless, the adoption in Germany shows a considerably higher use of value-based measures in an even greater variety, in particular in large companies.

The disparity is even more evident from an academic point of view, as barely any additional evidence on Chinese strategic MA or value-creation was found. On the contrary, a wide range of literature, although more theoretical, is available for strategic MA and value-creation support in Germany.

From the dissemination of instruments and methods, I infer that the German MA practice is currently in a late stage of the last phase defined by the described scheme – focus on management and a value-creation oriented approach. However, I suggest that this only accounts for large companies. SMEs have only started to enter this phase, while still being mainly in the third stage.

As for China, I infer that it has only reached the third phase according to the scheme – emphasis on reduction of waste in business processes. The creation of firm value in MA has only started to emerge. Value-based techniques such as EVA and strategic MA

techniques such as the competitor analysis have only been adopted to a moderate extent so far. For Chinese SMEs, I suggest a categorization between stage 1 and 2. On the one hand, very little literature on Chinese SMEs can be found. On the other hand the literature that can be found as well as cross references of other studies suggest that MA is not widely known across SMEs, and if it is known, mostly limited to internal financial analysis and cost-profit analysis.

I also infer that the overall application of MA in China is relatively isolated and scattered. It appears to me that an organically closely related MA system does not yet exist in China. This implies that the effect of Chinese MA is not well balanced, which confirms the categorization in the third phase of the scheme developed above.

3.2 Conceptual comparison

Based on the findings from Chapter 3.1, in the following various conceptual MA aspects of both countries are compared and analyzed.

The aim of this chapter is to establish an understanding of differences, whereas a clear focus will be put on the role of management accountants as a fundamental part of the MA practice.

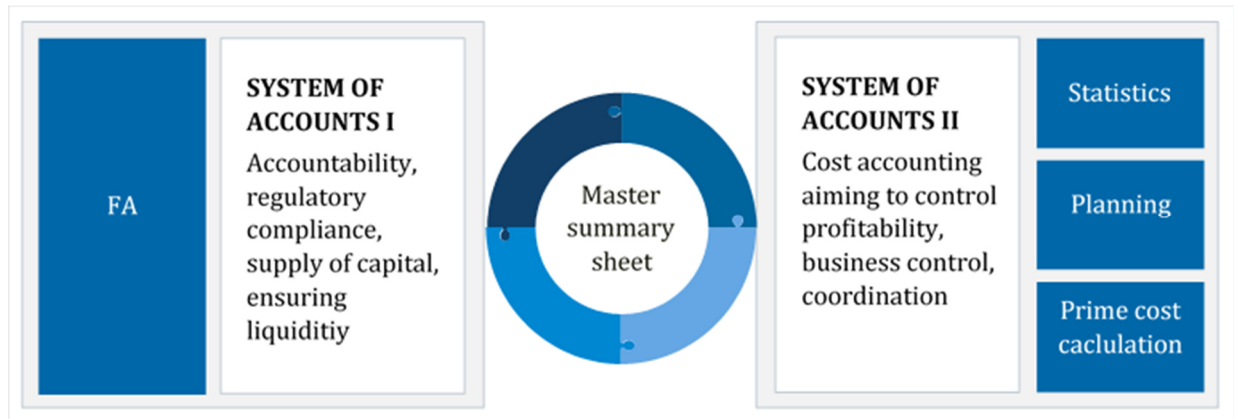
3.2.1 Financial accounting vs. management accounting

One of the main differences between the two countries appears to be the *dissociation between MA and FA as well as the data source for MA purposes*. It was described in Chapter 3.1.2 that in Germany a two-circle accounting system that clearly separates FA from MA is applied. This means that one circle provides the internal accounting with data, whereas the second circle provides the external accounting with data (Ewert and Wagenhofer, 2007).

Thus, figure 7 shows that two systems of accounts exist:

1. System of accounts I: FA, where valuations depend on external laws and regulations
2. System of accounts II: Cost accounting, where valuations are chosen based upon imputed criteria/costs¹⁰ (kalkulatorischer Kriterien/Kosten)

Figure 7: System of accounts



Source: own representation.

In the development of Chinese MA, no such separation could be observed. The same results from a global comparison. This is why I perceive the two-circle accounts system as a peculiarity of German MA.

Since nothing comparable can be observed in China, it is evident that both FA and MA must share the same source of data. Islam and Cantor (2005) state that most of the data used in MA is processed in the FA department. Given this structure, I assume that the Chinese data for MA is sourced similarly to MA data in the US. In the US, the data is sourced from the general ledger, which in turn is called in China the chart of accounts (hereafter referred to as “Chinese general ledger”) (Kahle, 2003).

This essentially means that from the Chinese general ledger both FA and MA are provided with data. However, in literature it is frequently mentioned that FA is significantly more established in practice than MA (Chow et al., 2007; Islam and Kantor, 2005; Zheng, 2012). From an organizational point of view, MA is more frequently subordinate to FA in China

¹⁰ Imputed criteria/cost: Also labelled as a hidden or implicit cost, is the price of production factors that a firm owns and utilizes. “Imputed” means the firm does not report it on its financial statements as cost

than in Germany (Gerlach, 2009). Thus, I assume that the Chinese general ledger is strongly dominated by FA data rather than MA data.

Another difference can be seen in the deeply rooted usage of imputed costs and the dissociation with expenses in Germany. Such a system and definition do not appear to be applicable or relevant to the Chinese MA system. However, it explains the unique and extremely detailed cost accounting system with a constantly rising number of cost centers in Germany.

Furthermore, although from a regulatory point of view FA and MA are recognized as separate disciplines, a clear relationship between the two exists in China. Many management accountants frequently follow Chinese Generally Accepted Accounting Principles (GAAP), although they are not obliged to do so. This might be attributable to the superior role of FA (Gerlach, 2009; Islam and Cantor, 2005). The contrary is true for Germany, where the two-circle system establishes a fundamental line in which MA focuses almost exclusively on managerial support without consideration of any statutory requirements. FA is ruled by statutory requirements, especially in terms of taxation and commercial codes to primarily address the state and creditors.

3.2.2 Organizational formation

In Germany, MA is located in separate departments within an organization. This also includes a separation between FA and MA departments. Moreover, in Germany 54% of MA departments do not have any organizational relationship to FA departments (Stoffel, 2002).

The MA department is mostly on the same hierarchical level as the finance department and reports to the CFO, which directly ensures a close proximity to the top management (Hoffjan et al., 2009). This is in contrast with the organizational setup of Chinese MA departments.

In China, most companies do not have a separate MA department. Often the MA responsibilities are shared by all departments and managers in common. This is especially problematic if communication barriers exist between departments. This organizational structure indicates that companies in China lack consistent, uniform, and efficient planning and controlling (Islam and Cantor, 2005).

However, I assume that at least a majority of large listed Chinese companies and SOEs as well as JVs have a separate MA department. Yet, it remains questionable whether it is truly independent from the finance department. I assume that in most cases, MA is set up within the finance department on a hierarchical level below FA. Another possibility might be that the structure is similar to that sometimes found in medium-sized German companies in which both FA and MA are organized within the finance department on the same hierarchical level.

3.2.3 Country-specific methods

Based on the techniques found in survey studies of both countries, I have identified two peculiarities for each country. All four methods were, at some point, used in the respective countries to a substantial extent.

In China one of these instruments is *the internal bank feature* as part of responsibility accounting. Within organizations, an internal bank is established in order to manage inter-organizational transactions and responsibilities as well as to control the funds and credits. Table 13 in the appendix illustrates that compared to other transfer pricing methods, the application of the internal bank feature is only moderate, with an adoption rate of 33%.

The second Chinese method I identified as *the internal cost system* of Handan Iron & Steel Co. Ltd. They implemented a system called “market simulation-based accounting and cost negation.” In the 1990s, it was particularly successful as it incorporated incentives theory, market prices, and leveraging teamwork. The basic principle was to establish an internal transfer pricing system among subsidiary plants in order to set up a plant profitability calculation. Based on the profit of each subsidiary plant, rewards were given to subsidiary plants that surpassed the initially budgeted profit figure. The transfer prices among the plants were calculated as the average market price of half-finished goods with semi-annual price adjustments. Despite the lack of adoption rates, the Handan case is mentioned frequently in the Chinese MA literature, which demonstrates its relevance (Chow et al., 2007; Zheng, 2012).

For Germany one of the identified methods is marginal planned cost accounting (Grenzplankostenrechnung). It explicitly separates variable and fixed costs while focusing

on variable costs for short-term decision-making. Other than direct costing, marginal planned cost accounting always incorporates actual and planned data in order to fulfill cost planning objectives. Moreover, it is based on a finer subdivision of cost centers and more than only one reference value per cost center. The implementation has been ensured through the parallel development of integrated software (SAP R/3). The adoption rates are relatively close to 100%.

As the marginal planned cost accounting aims at variable (direct) costs, it was only necessary to develop a method that addresses fixed (indirect) costs. Therefore, based on ABC the German process accounting (Prozesskostenrechnung) was established. Process accounting displays a more long-term oriented decision-making support in terms of cost management. However, the adoption rates are considerably lower than for the marginal planned cost accounting, with figures varying between 31% and 59%.

3.2.4 Overall orientation

Generally, the development of German MA has been characterized by strong international isolation. Over time, several country-specific features of the discipline have emerged. As discussed above, MA developed a strong emphasis on strategy and planning – both long-term oriented aspects. Carr and Tomkins (1998) showed that in Germany, formal strategy and control approaches are prevailing and reflect a long-term orientation. Moreover, German MA is characterized by a detailed, unique cost accounting system as the source for analysis and short-term decision-making support. The efficiency of the detailed system is ensured by widespread and sophisticated ICT systems. Therefore, in my opinion, in Germany a unique system internationally, customized and tailored to the German situation, evolved over time.

The current MA practice in China appears to be closely modelled on the US system; adjustments specific to the Chinese situation can rarely be found in contemporary practice. This assumption is based on the applied and conceptual methods of Chinese MA. China has not developed its own MA with decisive and broadly adopted differences from American MA. Chinese-specific techniques such as the internal bank or market transfer pricing have not been broadly adopted in business practice.

3.2.5 Role perception

One of the key components of MA is the role of the management accountant in China and in Germany. Based on the historical overview, it can be deduced that the different spread of the practice in the two countries has visibly affected the perception of the roles of management accountants.

Hence, the aim of this chapter is to examine current perceptions of the roles in terms of their tasks, hierarchical positioning, and possible categorization.

3.2.5.1 Chinese management accountant

Compared to studies concerning the role of German management accountants, evidence on the role of management accountants in China is rare. Most studies only touch on the topic alongside other focuses. Islam and Kantor (2005) analyzed the development of quality management accounting practices in China. Nonetheless, their article provides valuable insights in the decision-making process of Chinese companies. A few studies focus entirely on the perception of the roles. For instance, Ji et al. (2007) provide insights into how Chinese management accountants cope with the changes from a planned economy to a market economy. Based on this, an overall analysis of the current perception of the roles can be derived. However, the literature on the role of Chinese management accountants is far from representative.

Tasks and responsibilities

Chinese management accountants are still more responsible for reporting information rather than performing actual controlling. This is in line with the reporting habits and interests of Chinese managers. They primarily focus on reporting operational performance, such as production performance, internally as well as externally (Ding, 2010 as stated by Zhang and Wang, 2014).

Hence, the main task of management accountants within the management process is the collection of information on costs and expenses to satisfy compliance requirements and control the production process. This is in line with Xuyi and Hui (2009), who conclude that the main purpose of MA is to increase profit margins by cutting costs.

However, in a supportive role, management accounts are involved in strategic management. They support decision-making as well as strategy implementation processes. This is in line with the adoption rate of strategic MA methods such as the BSC. It is therefore reasonable to assume that management accountants also occupy an active part in the strategy implementation process.

It is interesting that Ji et al. (2007) state that Chinese management accountants are not involved in the collection of information for competitive support and quality control, as this is the responsibility of marketing, production, and quality control departments. This confirms the scattered nature of the organizational structure (see Chapter 3.2.2). However, the adoption rates for competitive analysis (56%, Chow et al., 2007) indicate that such tasks, even if not performed by management accountants per se, still lie in the management accountant's area of responsibility.

The limited scope of tasks performed by Chinese management accountants can be traced back to a lack of meaningful software in order to support MA analysis and decision-making support. Zheng (2012) states that developing Chinese ICT is crucial for the further development of management accounting. This is particularly true for strategic MA, value creation, and decision-making support on an entity-wide level. The increased use of ICT seems especially important as it would provide management accountants with the possibility to increase efficiency, which is needed in order to have more time for other tasks and responsibilities.

Interactions and hierarchical positioning

Besides their tasks and responsibilities, the connection between management and financial accountants characterizes their perceptions of their roles. Chinese management accountants greatly depend on information provided by financial accountants as an initial source of data for further processing (Ding, 2010). Moreover, many management accountants have been trained or at least influenced by the FA profession, which has led to the use of analysis under the guidance of Chinese GAAP in order to provide arguments in decision-making processes. The other way around, FA either ignores or does not receive data from management accountants (Islam and Kantor, 2005). Although Chinese management accountants are aware of the increasing importance of MA information in

decision-making processes, they appear to have little initiative to change the system (Ji, et al., 2007).

I infer from this that not only the Chinese general ledger but also the Chinese management accountants themselves are strongly biased by FA. Additionally, the organizational structure in the form of scattered MA responsibilities as well as obvious subordination to FA suggests a relatively low hierarchical ranking. This is in line with Zheng (2012) who found in an empirical study focusing on SMEs that a majority of Chinese firm leaders thinks little about management accounting. It also indicates that management accountants occupy positions with limited influence on management control. This is particularly worrying as several studies state that the top/senior manager is the crucial factor for successfully implementing new MA systems in Chinese companies (Liu and Pan, 2007).

3.2.5.2 German management accountants

The role of management accountants is scientifically well-researched in Germany. Various studies have indicated that the role of management accountants in German companies has changed over the past decades. Recent studies mainly outline that aside from the classical elements of information provision, management accountants have a wide range of further responsibilities in terms of management control. They increasingly perceive themselves as the economic conscience that enables a company to survive in the long term (Weber, 2008; Spatz, 2009; Schäffer and Schürmann, 2010). In the following, a great diversity of different studies is used in order to derive a complete picture from various angles.

Tasks and responsibilities

The most basic task of management accountants in Germany is the provision, reporting, and interpretation of information. Aside from that, another major field of activity is supporting and advising managers in decision-making processes, providing performance reviews, delivering ad hoc information, and contributing to planning processes (Weber, 2011).

The International Group of Controlling (IGC), which was founded in Germany, describes management accountants' (i.e. controllers) fields of activity in the following (IGC, 2013):

As partners of management, controllers make a significant contribution to the sustainable success of the organization. Controllers (1) design and accompany the management process of defining goals, planning, and management control [...], (2) ensure the conscious preoccupation with the future [...], (3) integrate an organization's goals and plans into a cohesive whole, (4) develop and maintain all management control systems, ensure the quality of data and provide decision-relevant information, and (5) are the economic conscience [...].

This indicates that the field of activities encompasses more than simply the basic, traditional tasks mentioned earlier. Long-term oriented responsibilities are of great importance. In particular, the strategic perspective as well as tasks such as actively designing the management process demonstrate a strong involvement in ensuring sustainable business development.

In a recent survey study, Schäffer and Erhart (2013) focused on German management accountants' tasks during the phase of analysis and conception, as well as during the phase of implementation and control. They identified 13 tasks of great importance. The top three tasks of each of the two phases were as follows:

1. Analysis and conception phase: support in determining goals, provision of relevant information and analysis, and coordination of the strategy process
2. Implementation and control phase: supporting the implementation of strategies, measuring successful performance, and critically challenging the management's plans and activities

To conclude, it becomes obvious that the tasks performed by German management accountants are very broad, comprising short-term operational and long-term strategic fields of activity.

Interactions and hierarchical positioning

Management accountants are represented in virtually every German company, while being grounded in the second organizational level, which is a sign of the close connection between German management accountants and managers as equals. Empirical studies conducted on the hierarchical positioning of German management accountants regularly

confirmed this, with rates for 60% of all German management accountants (Amshoff, 2013). Moreover, the broad range of activities, above all in the coordination of the strategy process, suggests that the management accountant cooperates closely with essentially all departments of an organization.

From a conceptual point of view, it has been illustrated that both MA and FA are set up as separate departments within an organization. However, Horváth (2008) and Weißenberger et al. (2012) found that the provision of information is not only addressed to the managers but also in significant part to the FA.

Horváth (2008) argues that the management approach addressed in the IFRS demands an extension of the traditional division between MA and FA. The IFRS management approach aims to provide shareholders with decision-relevant information. This is based on the idea that essential information for the internal steering of a company is also decisive for external investors. Therefore, the IFRS enforces a close connection between the IFRS accounting and MA information. Consequently, this indicates that financial accountants must rely on information provided by German management accountants in order to satisfy the needs of IFRS. This clearly shows the great importance and acceptance of management accountants within organizations nowadays. Additionally, not only large companies but also virtually all medium-sized companies have separate positions for management accountants in Germany (Dintner and Schorscht, 1999).

3.2.5.3 Role categorization

In the following, a model based on the German management accountant's role in terms of perception, activities, and requirements is used in order to categorize the current role perceptions of German and Chinese management accountants in practice. The chapter starts with a short explanation of each role before the categorization per country is determined.

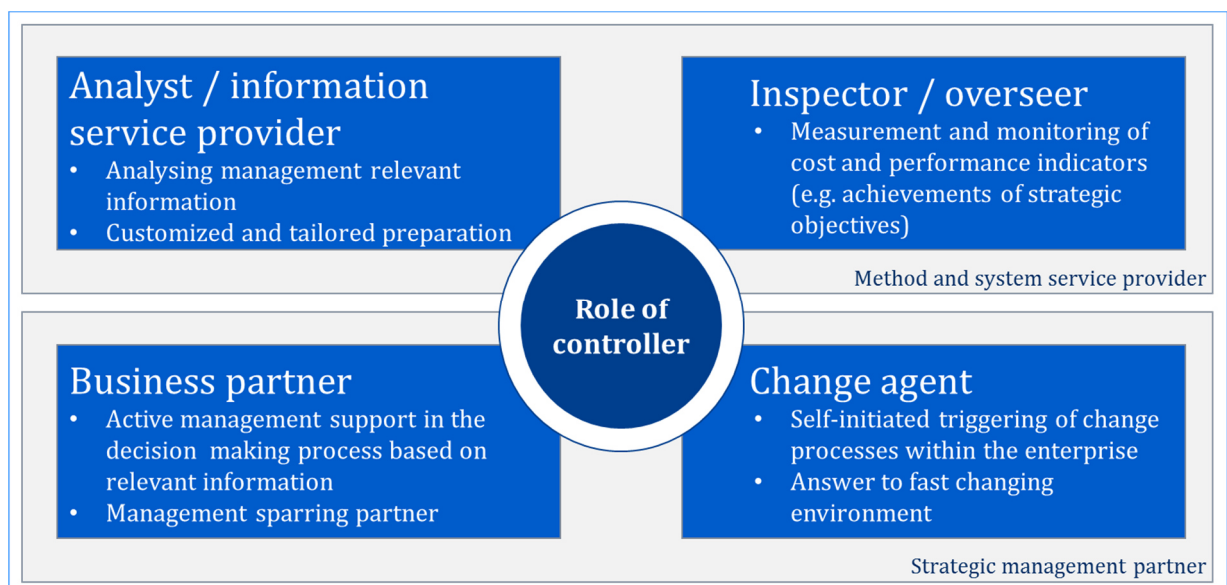
Horváth (2015) summarizes the roles of management accountants based on a study performed by Gleich and Lauber (2013). The results are illustrated in figure 8. Management accountants essentially encompass four different roles. Similar roles were defined by Weber (2011). With the aid of further literature on the roles of management

accountants the four roles are extended towards a more general perspective than that suggested by Horváth (2015).

The analyst/information service provider analyses management-relevant information in order to customize and tailor it for management purposes (Horváth, 2015). Especially in the early years of a MA practice, management accountants strive for legitimacy and acceptance in organizations, which can be considered a typical characteristic (Goretzki and Weber, 2010). Their main responsibilities encompass cost planning and cost control. Typical tasks consist of providing support for profit planning and efficiency as well as variance analysis (Gleich, 2013).

The inspector / overseer is the financial conscience of the company. He or she is responsible for the operational control of KPIs. Focus is placed on the measurement of strategic achievements and the decision-making support in the form of analysis (Horváth, 2015). Tools such as target costing, BSC, and ABC are used by the management accountant to meet the broadened field of responsibilities in companies. Management accountants are increasingly perceived as market-oriented experts in costs, KPIs, performance measurement, and strategy implementation support (Weber et al., 2006).

Figure 8: Roles of management accountants



Source: own representation based on Horváth (2015), Gleich and Lauber (2013), and Guldin (1998).

The business partner is fundamentally the same as described in the mission statement of the IGC (see Chapter 3.2.5.2). The management accountant acts as a “sparring partner” or navigator for the management. He or she actively participates in the decision-making and

management process as a business partner by bringing in his or her own wealth of experience and evaluation expertise. Additionally, he or she is considered to contribute a vital aspect of the strategy development (Weber, 2011). Consequently, management accountants make a meaningful contribution to the corporate management and control, which reveals that the business partner role is strongly aligned with the corporate management as well as the understanding of the business model. Goretzki (2012) even consider the business partner role as the supreme discipline of management accountants.

The business partner role is especially characterized by not only recording ex post data and reporting but by accompanying decision-making processes and consulting the management. The business partner role is also widely accepted internationally. Nilsson et al. (2011) argue that management accountants should act as a business partner rather than as scorekeeper, which means that he or she should (1) provide managers with suggestions for decision-making, (2) play a vital role in developing the company's strategy, and (3) modify the current management control system and propose more appropriate MA techniques and methods. However, the third requirement defined by Nilsson et al. (2011) appears to correlate more strongly with the role of a change agent, as proposed by Horváth (2015). This might be attributable to the fact that Nilsson et al. (2011) did not evaluate an additional future role for management accountants. Therefore, his third requirement will be re-allocated towards the change agent role in order to create a finer range of categories.

The change agent proactively modifies the current management control system and initiates more appropriate MA techniques and methods (Horváth, 2015). In other words, he or she initiates change processes.

In Germany, various case studies reveal that the business partner role has become a reality. Examples can be observed in Hansgrohe (Goretzki and Weber, 2010), BASF (Pötsch, 2012), or Volkswagen (Pötsch, 2012). In these companies, management accountants satisfy the mission statement of the IGC updated in 2013.

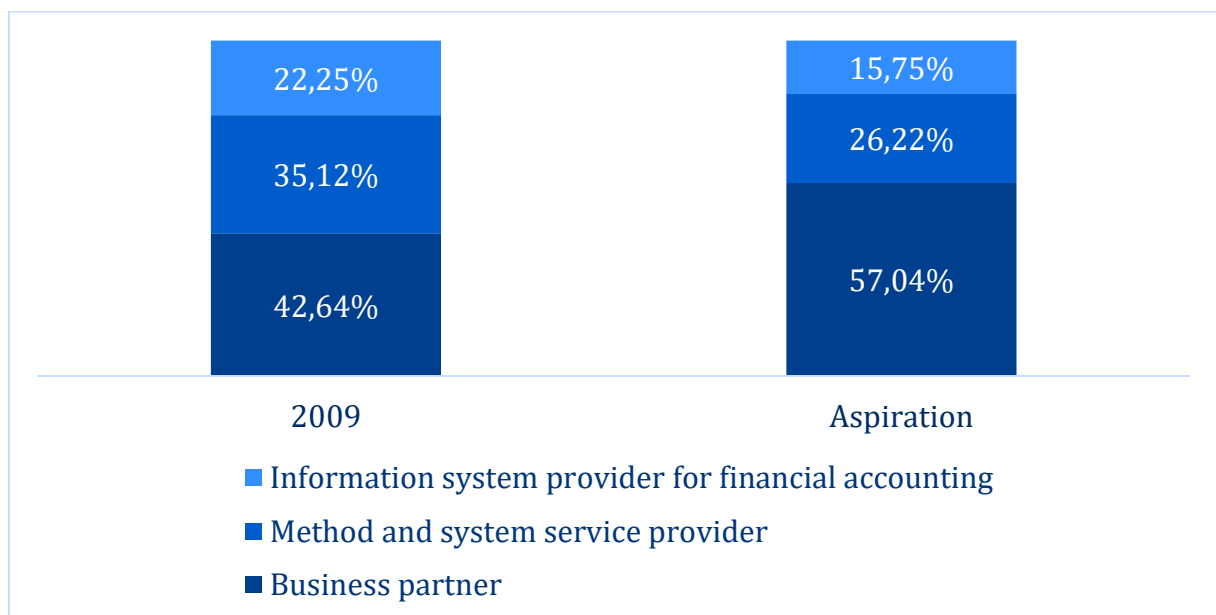
Moreover, Weißenberger et al. (2012) examined the change in the role of management accountants in a large-scale empirical study by surveying MA directors and managers of large German companies. They surveyed both managers and management accountants, which allowed them to draw conclusions on the connections between the two. Figure 9

displays one of the findings, which support the outcomes of the previously mentioned case studies in which the business partner role is dominant. The results also demonstrate that the business partner role is expected to gain an even higher share in the future.

However, it becomes clear that the roles that initially characterized management accountants, such as analyst and inspector (in figure 9, summarized in the “method and system service provider” role), still occupy a major part of the profession. The time German management accountants spent as information system provider for FA can be allocated to the analyst and inspector role as well.

Concerning the role of change agent, Gleich (2013) states that the role of the management accountant at Henkel, in addition to business partnering, incorporates aspects of strategic consulting, pro-active behavior, and driving change. Pötsch (2012) also describes management accountants at Volkswagen as responsible for initiating, analyzing, and coordinating change processes. Moreover, Schäffer and Weber (2012) found in an empirical study based on European countries, and in particular German-speaking countries, that 80% of the respondents perceive the management accountant as a driver for change processes in the future. However, also this only indicates that a change towards the change agent role is going to occur in the future.

Figure 9: Amount of time spend on each MA role



Source: own representation based on Weißenberger et al. (2012).

Based on the analysis above, I infer that the majority of German management accountants currently embody the roles of analyst/information provider, inspector/overseer, and

business partner. The spread of the change agent role has only started to appear in Germany, despite being perceived as crucial for the future by a majority of companies. Due to the categorization of MA practice in SMEs within the third stage of dissemination (see Chapter 3.1.3), in my opinion it can also be inferred that management accountants in German SMEs have only started to fulfill the requirements of the business partner role while mainly being analysts and inspectors.

In China, no studies comparable to the one by Weißenberger et al. (2012) have been conducted. However, based on the information in Chapter 3.1 and 3.2.5.1, a categorization can be derived.

The analysis of tasks performed by Chinese management accountants suggests that they at least embody the roles of analyst/information provider and inspector/overseer. For instance, it was stated that their involvement in the strategy implementation process is evident.

Additionally, this first categorization can be confirmed by the adoption rates of MA methods as well:

- Analyst/information provider: cost behavior analysis 77%, responsibility accounting, and cost allocation 70% (Chow et al., 2007)
- Inspector/overseer: BSC 39%, ABC 52%, ABM 37%, target costing 64%, and Kaizen costing 52% (Chow et al., 2007)

Moreover, the moderate rate of EVA adoption (63%) shows that in large corporations, the focus lies on the required external market view. The high rate of target costing suggests the same. On the contrary, the profile of the business partner role does not align with the role of Chinese management accountants. Firstly, no evidence can be found that indicates that Chinese management accountants actively contribute to strategy development. Secondly, management accountants' strong bias towards FA might prevent truly managerial decision-making support. Thirdly, Chinese management accountants are not widely accepted among managers, and their hierarchal organizational positioning hinders their perception as sparring partner for the management. An argument against the role of change agent, in addition to the three reasons mentioned before, is that Chinese management accountants do not modify management control systems or improve internal processes (Islam and Kantor, 2005).

Another perspective necessary for the analysis to reach a valid categorization is to compare what key aspects for the future pursuit of the business partner role are already fulfilled. Based on the experiences in Germany, Weißenberger et al. (2012) propose three factors that enhance the organizational process to realize the business partner role:

1. The change in role must begin with the management showing that they are aware of the importance of business partners and want the management accountant to exercise this role. Particularly in lower hierarchical levels, this cannot be taken for granted.
2. Structures and processes concerning the communication with the management must be implemented, as well as the necessary MA measures. This might also include the introduction of management accountants in the management structure of operational business units and ensuring geographical proximity to the management.
3. Business partnering must be aligned with the organizational steering processes so that HR can provide proper candidates that satisfy the increased job requirements.

The first two factors illustrate clear barriers to Chinese management accountants' utilizing the business partner role. So far, Chinese managers do not seem to want management accountants as sparring partners; they still consider FA superior. The third factor will be discussed in more detail in Chapter 4.2.

In my opinion, Chinese management accountants are currently perceived as analysts/information providers and inspectors/overseers, whereas the requirements for the business partner role have essentially not yet been met. Moreover, in line with the categorization of the spread of Chinese MA among SMEs, management accountants in SMEs can only be considered as analysts/information providers. They rarely use any cost management techniques that could qualify them for the second role.

4 Influences and determinants

4.1 Economic, political, and foreign influences

The aim of this chapter is to elaborate which economic, political, and foreign factors have led in what ways to the differences between the two countries. Political and economic factors primarily consist of the prevailing economic and political system as well as major events and economic trends. Secondly, characteristics underlying the economic and political systems are included. Foreign factors mainly consist of the foreign partners of the respective countries.

The identified factors are analyzed as influencers and determinants in a comparative set-up. The commentary and categorization from Chapter 3.1 serve as a framework and primary source of information. Furthermore, aspects from Chapter 3.2 are addressed as the initial emergence of the differences is explained. Additional sources serve as argumentative support where necessary. At the end of the chapter, a brief outlook on the future development considering the economic, political, and foreign influences is provided.

Economic changes, especially in fundamental aspects such as the economic order and orientation, can affect a country in a variety of ways. Naturally, as one of the subsystems operating within organizations, MA is likely to be influenced by such changes as well. For instance, economic circumstances such as a high level of inflation can significantly influence the perspective of management accountants (Blake et al., 1998).

Moreover, Blake et al. (1998) found that the MA practice of one country can be influenced by economic circumstances in other countries. They even demonstrated that if a country is economically dominated by another country, it is more than likely that the dominance will also extend over MA and lead to a considerable adoption in the subordinated country.

4.1.1 First phase

Although, Blake et al. (1998) focused on Latin American countries, I find his result to be essentially in line with what has occurred in China's MA practice. In 1949, when the People's Republic of China was formed, all previous control methods and financial management theories were abolished and substituted by practices from the Soviet Union.

As with the new political system, the corresponding planned economy was mainly taken from the Soviet Union, and the MA as one of its subsystems as well.

The German MA practice did not change as dramatically as the Chinese system. Despite a considerable delay compared to the Anglo-Saxon countries, the German system essentially developed from the inside out. From the very beginning, Schmalenbach ensured direct interaction between theory and business practice. The Chinese MA practice was continuously, actively steered by the government and developed in alignment with the planned economy system throughout this phase.

Figure 10 displays the key motivating factors and their influence on MA in the two countries of interest.

Table 10: Key drivers and their influence (first phase)

	Germany (until 1945)		China (1949-1977)	
	Key driver	Influence	Key driver	Influence
Politics	Passive governmental role (taxation regulation of German states)	Introduction of two-circle system	Active central governmental role (Decision unifying economic and fiscal work)	Cost accounting system adoption, especially for steering purposes
	Active governmental role (Drittes Reich)	Cost accounting manifestation		
Economy	Industrialization (competitive market)	Cost techniques aligned with competitive environment and efficiency increase	Planned economy system	Cost accounting aligned to establish system control
	War readiness			No effectiveness or performance drive
				Profit was not major factor of concern
Foreign			Soviet Union	MA system and techniques are taken over completely

Source: own representation based on chapter 3.

For the conceptual development in China, I have identified three key motivating factors. All three have led the MA practice towards the development of a system which helps the government to steer the centralized economy. Due to the characteristics of the planned

economy, no orientation towards effectiveness or performance can be identified. Profit was not the major concern, and companies were not given any responsibility apart from fulfilling their production quota. I infer from this that at this stage, cost accounting in China was essentially only used to fulfill the production quotas from the government.

The influence of all three factors can be considered equally important. However, when considering the future implications of the contemporary practice, all three factors are of minor importance. Contemporary MA virtually does not overlap with the Chinese practice in this period.

For the conceptual development in Germany I identified four key factors. It is interesting that the German two-circle accounting system and the detailed and widespread cost accounting emerged due to the influence of political factors. Firstly, the two-circle accounting system can be traced back to a decision made by the German states at the end of the 19th century to levy taxes based on financial statements (Ewert and Wagenhofer, 2007). Secondly, it stands to reason that cost accounting is so widespread and detailed due to the standardization of FA and cost accounting by the National Socialist government throughout the German economy in 1933. I assume that the clearly defined and well established organization of German MA departments, separately from FA departments, is due to the German two-circle system and widespread cost accounting. Based on this, I infer that this organizational structure of MA can be traced to political factors as well.

The strong influence of both political factors led to the resulting peculiarities becoming a country-wide norm that continues to this day (Friedl, 2009). Therefore, in the long run, political factors prevail in their influence compared to economic factors. However, in the short-run industrialization and war-readiness have crucially influenced the operational efficiency orientation of MA practice in Germany.

I conclude that *in direct comparison*, the different development of the overall MA orientations in this phase is mainly attributable to different economic factors, whereas the peculiarities identified can be attributed to political factors. However, I also conclude that none of the three factors (political, economic, and foreign) necessarily imply permanent effects, as observed in the case of Germany. In China contemporary MA has very little in common with MA in this phase.

Moreover, in my opinion, the foundation of the *current role* of management accountants in the two countries was influenced sustainably by the identified factors. German management accountants influenced costs and prices to satisfy the economic rationale of increased profit. They contributed significant value added in order to perform profitably. Financial accountants were directed towards the state and creditors while being strongly influenced by statutory regulations. Their responsibilities and objectives were clearly separated from one another. In my opinion, it was at this point that the foundations for the contemporary high hierarchical position of German management accountants were laid.

On the contrary, Chinese management accountants were essentially only given the responsibility to ensure the quota production. Moreover, under the planned economy Chinese managers focused significantly on reporting operation results internally as well as externally. I infer that this is one of the major reasons for the close proximity between management and financial accountants as well as for the subordinate role of management accountants. In this arrangement, their services simply did not provide sufficient value added, which presumably has hindered the further acceptance of their role in organizations. Therefore, I conclude that the current low hierarchical position of management accountants as well as the organization of and relationship between MA and FA have been noticeably influenced by the planned economy conditions.

4.1.2 Second phase

At the end of the Second World War, German MA faced a similar foreign influence as China did in the first phase. The US clearly guided or perhaps even implicitly dominated the German economy (through e.g. the Marshall Plan). According to Blake et al. (1998), this inevitably led to the adoption of US practice, at least to some degree.

After the introduction of the open-door policy and the transformation into a social planned economy, China turned to Western MA practice, especially that of the US, like Germany (Skousen and Yang, 1988). Although the US did not dominate China economically, it was still the largest economy globally with presumably the lowest language barriers.

Figure 11 shows the key motivating factors that I have identified and their influence on the MA practice in the two countries of interest.

Table 11: Key drivers and their influence (second phase)

	Germany (1946-1970s)		China (1978-1997)	
	Key driver	Influence	Key driver	Influence
Politics			Active governmental role	Measurement system for company performance evaluation development
				Internal bank system promotion
			Passive governmental role (open door policy)	Framework for Western MA diffusion
Economy	Post-war economy	Cost management drive to ensure efficient resource allocation	Transformation into social planned market economy (shareholding system, modern company system)	Requirements and urge of modern MA (responsibility and decision making break down; slow competitive increase)
	Structural change (capital and knowledge intensity)	Developing short-term decision making tools with IT entity integration		
	Industrial organization theory			
Foreign	USA (subsidiaries)	First MA positions in German subsidiaries of US companies	Western countries, in particular USA (JVs)	“Import” of Western MA techniques and methods (responsibility accounting, decision making support, cost control)

Source: own representation based on chapter 3.

For the conceptual development in China I identified four key factors. It is particularly interesting that the “measurement system for company performance evaluation” and internal bank system as two of the peculiarities of Chinese MA can be traced back to political factors.

The “measurement system for company performance evaluation” was entirely developed at the initiative of the government in order to steer SOEs more effectively. The origin of the internal bank system cannot be attributed to the government, but due to its active

promotion the government can be considered responsible for its diffusion. The long-term effects of both peculiarities are observable to this day. The internal bank system is used by a moderate number of adopters (Chow et al., 2007). The dimensions of the measurement system for company performance evaluation and the BSC overlap partly. Therefore, the current high BSC adoption rate can be seen as the long-term effect of the measurement system for company performance evaluation. In my opinion, the measurement system for company performance evaluation has primed companies for the use of an integrated system consisting of financial as well as non-financial performance indicators.

Despite the long-term consequences of the two political factors described above, the influence of economic and foreign factors, and the passive governmental role (and passively the governments' political decision) clearly prevailed. Through the transformation into a socialist economy the requirements needed for the implementation of Western MA techniques and methods were created – returning decision-making authority and economic responsibility to companies.

Currently, techniques imported from the US prevail in China (see Chapter 3). The overall alignment of Chinese MA with Western, especially American MA goes back to this very phase. I consider the emergence of foreign-controlled JVs one of the major reasons for this. The relationship between MA and JVs was confirmed in various studies based on contingency theory (Wu and Boateng, 2010; O'Connor et al., 2004). Based on this, foreign partners in the form of JVs are perceived as the main drivers in the diffusion process of Western MA techniques in this phase.

I conclude that the MA practice in this phase was dominated by economic and foreign factors, in the form of the transformation of the economic system and the influence of foreign partners, mostly in form of JVs.

For the conceptual development in Germany I identified four key factors. Two peculiarities arose under the umbrella of economic factors in the form of a change in market structure and the post-war economy.

Firstly, I suggest that the development and high adoption rate of marginal planned cost accounting is attributable to two economic factors. On the one hand, the post-war economy required the efficient allocation of the scarce resources. This was ensured by the

marginal planned cost accounting, which can be seen as an operations research optimization technique. On the other hand, the structural market change towards ICT allowed for a development aligned with software that was able to handle the massive amount of cost data (Ewert and Wagenhofer, 2007). Secondly, the process cost accounting mainly goes back to the structural market change towards a more capital-intensive environment, which required a better allocation of indirect costs.

The effect of both peculiarities remains significant in terms of contemporary MA practices in Germany – particularly with regard to marginal planned cost accounting (Friedl, 2009). In my opinion, the structural market change was the strongest influencer in this period. This is in line with the subsequent stronger MA orientation towards decision-making support within management processes (in the beginning, short-term decision support). Moreover, it strongly increased the need for sophisticated IT company resource software.

The US influence appears to me to be moderately important. On the hand, the two peculiarities mainly developed independently from similar tools in the US and exhibit small but distinct differences. On the other hand, the initial impulse for more management-oriented MA was found in the US. In my assessment, the influence of organization theory is low. Indeed, the first positions for German management accountants were created in US subsidiaries, but afterwards German companies followed suit very quickly.

Through direct comparison, it becomes clear that the influence embodied by the US may reveal varying degrees of responsiveness in different countries. In my opinion, the more advanced MA development in Germany was driven significantly less by the US than the development in China was. Also, the political influences in the two countries vary significantly: whereas in Germany no influence was observed, the Chinese government was still actively exerting influence to a notable degree. However, in both countries I consider the influence of economic change paramount among all factors.

Moreover, in my opinion, the current role of management accountants in the two countries was influenced by foreign factors to some extent as well. Through the influence of the US, the German management accountant became more management-oriented. Little by little, they were equipped with tools tailored to German MA in order to handle the change.

Chinese management accountants were introduced to Western MA. However, the change was not limited to MA but to the whole economic order. I infer from this that the characteristics of the planned economic system prevailed in the minds of managers and management accountants, which indicates that only a slight shift in the acceptance of the role had started in this phase.

4.1.3 Third phase

In 1998, the National People's Congress decided to either sell, merge, or close a majority of SOEs, which can be perceived as a preparation for later joining the WTO. This increased the opening of the Chinese economy and stimulated competition.

In Germany, a similar tendency could be observed. The growth of globalization increasingly stimulated competition and capital market orientation. Moreover, major global crises affected both countries.

Figure 12 displays the key factors that I identified and their influence on the MA practice in the countries of interest.

As to the conceptual development in China, I identified three key factors. The decreased exertion of influence by the Chinese government is particularly interesting; it is no longer interfering actively in MA development. The only relevant influence is the provision of regulations to foster a more open market environment. The actual influence on MA is then exerted by the consequences of the more open market itself. The lower governmental influence was confirmed in various contingency studies that concluded that the government does not exert a significant influence on Chinese MA any longer (Wu and Boateng, 2010).

For the economic and foreign factors the same cause-and-effect relationship can be observed in this phase as in the previous one. The more open and competitive market has driven the need for stronger internal control as well as concentration on the external market. In order to implement both aspects, the foreign factor is in place to “import” the necessary tools. The only change this time appears to be the additional Japanese influence alongside the US influence. Japan was particularly successful in incorporating an external market view into cost accounting. Target costing was subsequently adopted worldwide.

However, with the increased import of such tools, a more management-oriented perspective has started to develop, whereas the internal control focus still prevails today. Therefore, I consider both foreign and economic factors equally important to the diffusion of Western MA in this phase.

Table 12: Key drivers and their influence (third phase)

	Germany (1970s-present)		China (1997-present)	
	Key driver	Influence	Key driver	Influence
Politics	IFRS rollout	Wider range of responsibilities (convergence of financial and MA)	Passive governmental role (selling SOEs and governance regulation)	Implicates higher MA importance and supports further diffusion
Economy	Globalization (more complex environment; oil crisis, financial crisis)	Drives the orientation of MA (future strategic perspective)	Almost social planned market economy (entering WTO, rising trade increasingly open economy)	International competitive environment drives internal control and partly external market-orientated perspective MA diffusion
	Increasing importance of capital markets	Awareness and diffusion of value creation methods		
Foreign	USA and Japan	“Import” of management orientated MA techniques (cost management, strategy implementation, and value creation)	USA and Japan Foreign JVs	“Import” of management orientated MA techniques (cost management, strategy implementation, and value creation)

Source: own representation based on chapter 3.

Regarding the conceptual development in Germany, I identified four key factors. The IFRS rollout is especially interesting for the German MA practice (Horváth, 2008). It raises the question whether the convergence of the two-circle accounting system with the MA and FA is wise. However, so far, this convergence cannot be observed. Therefore, I consider the influence to be of medium strength because as of now it is limited to providing additional information to the FA.

At first glance, the influence of the economic and foreign factors appears to underline a similar relationship as explained in the case of China. However, there are several distinct differences. One of the specific features identified for German MA was the strong long-

term strategic orientation. As a matter of fact, the origin of this feature can be traced back to the oil crisis (Endenich, 2012). Based on this, I infer that the crisis was the reason for the recognition of the need to establish a function which incorporates the increasingly complex market environment while focusing on the future. This MA orientation has distinctively shaped the German practice up to the present. Nonetheless, the import of MA tools from the US and Japan is observable in Germany too.

To summarize, I consider the political influence to be of medium importance, whereas the economic and foreign factors play a dominant role in this phase in Germany.

In direct comparison, it becomes clear that over time the governmental influence has decreased, especially in China. The influence of foreign parties and economic factors remained the constant in both countries. Economic factors are the most important, followed by foreign factors, and finally political factors.

Moreover, in my opinion, the *current role* of German management accountants as business partners can be explained by the increasingly complex global environment as well as the oil crisis. It appears reasonable to assume that managers sought a role within organizations that challenged their plans based on future sustainability as well as economic rationality and feasibility. In this phase, the influence of political factors on management accountants' field of activities and the accompanying effect on the relationship with financial accountants was strong. For Chinese MA, the foreign influence equipped the practice to fulfill the requirements of the first and second roles presented above. Yet, the economic influence in the form of the more international and competitive environment seems incapable of overcoming the strong influence of the planned economy. Thus, the role of business partner has not yet emerged.

4.1.4 Further implications

Throughout the three phases the Chinese *governmental influence* constantly decreased. In the beginning, the government actively exerted a strong influence on the development of MA. Currently, the government only occupies a passive role in the development. In Germany, the governmental influence was only actively exerted on the MA development in the first phase. The subsequent influence was not a major factor.

The influence of *economic factors* on Chinese MA can be conceived as persistently strong throughout the observed development. Despite great differences in the individual factors of each phase, the economic influence was significant. In Germany, the influence of economic factors was the strongest determinant throughout all three periods. This led to the conclusion that German MA developed from the inside out rather than being shaped by external influences.

Similar to the economic influence, the *foreign influence* on Chinese MA can be perceived as equally strong throughout the three phases as well. The foreign influence for Germany only started to emerge in the second phase. Yet, it appears to have increased during the third phase.

Starting in the first phase, a cause-and-effect relationship can be observed among these three influences in China. The government's decision influenced the economic order, which in turn activated the influence of a foreign party. However, the initial impulse from the government changed from being active to passive. In Germany, a cause-and-effect relationship between the economic and foreign factors was only observed in the third phase.

In the future development of Chinese MA, I expect the foreign influence to prevail. The reasons for this are China's approaching the final stage of the economic system and the limited capital market orientation of Chinese firms. Consequently, the further development of value creation will be driven by external impulses from foreign partners. Furthermore I predict that the further dissemination of MA in business practice, especially of SMEs, will be driven equally by foreign and economic influences. For Chinese management accountants, I expect that with the reaching of the final economic stage, the old planned economy influence will fade away. In turn, the increased foreign influence will spur management accountants' transformation into business partners.

In the future development of German MA, I expect the economic influence to be dominant. Digitization and industry 4.0 are based on profound IT capabilities and know-how which is in line with the strong IT background of German MA. Therefore, I predict that such trends will further drive the development of the operational MA practice, whereas the more connected world will increase the need for an even stronger strategic focus in German MA. Moreover, I expect foreign partners to have at least a moderate sustained

influence that can be traced to the global convergence through the connected world. This might enhance the capital market focus of German companies in particular. Consequently, a stronger emphasis on value creation in the German MA practice appears to be a reasonable expectation. For German management accountants, I expect the economic influence to prevail as well. In a rapidly changing world, their transformation into change agents seems to be of great importance. Digitization and industry 4.0 can help management accountants to gain time by digitizing more responsibilities.

4.2 Educational influences

In China, many studies on MA using the contingency framework have incorporated variables such as the availability of training (O'Connor et al., 2004); the level of knowledge of accounting staff; MA experience (Wu and Boateng, 2010), expertise, or knowledge of new employees; training provided by local/domestic universities; and training by local/domestic or foreign organizations (Chow et al., 2007). Scholars commonly recognize the importance of education, training, expertise, and institutions when it comes to management accountants. Most of the studies have been performed in order to examine factors influencing the further diffusion and adoption of Western MA in China.

In Germany, several scholars have dedicated individual studies to the education system, in particular at universities. For instance, Reimer and Orth (2008) focus on behavioral aspects of MA as taught at German universities. Becker and Messner (2005) analyze the relationship between the education of management accountants, corporate governance, and business scandals. Becker et al. (2011) focus on the education at universities after the Bologna reforms by examining content, teaching methods, the importance within business administrations, and the backgrounds of the teachers.

It becomes clear that the effect of education appears to be one of the major differences across countries. Therefore, it is important to include this variable in the comparative framework of this thesis. For a finer distinction education and academia are analyzed separately.

The aim of this chapter is to assess the influence of education and academia on the development of the MA practices in China and Germany.

4.2.1 Education

4.2.1.1 China

China lacks its own professional institution offering a qualified certification for management accountants as is common practice in the Anglo-Saxon countries. The ministry of finance runs a qualification office for accountants in industry and commerce, and the Chinese Institute of Certified Public Accountants operates the Certified Public Accountant (CPA) examination office. However, both institutions' curricula barely cover MA-related topics (Chow et al., 2007).

Hence, MA in China can be characterized more as a discipline taught at universities than a profession defined by professional institutions. Zheng (2012) explains that there is an imbalance between the numbers of both financial and management accountants and the coverage of FA and MA in universities. The same imbalance is present in the accounting curricula. Chow et al. (2007) found that only an average of 2.36% of the total credits required in an accounting major concern MA. Yet, they also conclude that MA courses are somewhat supportive of the needs in practice as they cover the same topics that are considered important for management accountants. The content taught is characterized by a narrow perspective on MA, focusing on methods, instruments, and techniques (Chow et al., 2007). Schiff (2013) states that the majority of new hires in MNCs in China are mainly recruited from either undergraduate programs (44%) or large CPA firms (32%). This indicates that although the university curriculum remains of great importance for MA, education is also connected to the examination offices of the government, despite their lacking inclusion of MA.

In more recent years, UK- and US-based MA institutions appear to have increasingly penetrated the Chinese market. In March 2017, the US Institute of Management Accountants (IMA) endorsed the accounting programs of Peking University, the University of International Business and Economics, the Central University of Finance and Economics, Shanghai University of Finance and Economics, Jinan University, and the South China University of Technology. The IMA endorsement illustrates that the programs and educational systems of these universities properly prepare students to enter the MA profession while earning the Certified Management Accountant credential (IMA, 2017).

In addition, CIMA has been already active in China for 10 years, currently operating five branch offices (CIMA, 2017).

4.2.1.2 Germany

Similar to China, the education system for management accountants in Germany does include professional institutions as the CIMA or IMA. The institution that comes closest to the IMA or CIMA is the International Controller Association (Internationale Controller Verein, ICV), which was founded in 1975 (ICV, 2017). However, it can be perceived more as a think-tank. It does not offer any credentials or widely recognized qualifications as the IMA and CIMA do.

The educational system for management accountants in Germany is virtually entirely based on university education. Whereas management accountants in various other countries, such as the UK or Spain, have valuable career options without a university degree, in Germany this is one of the fundamental requirements for working in MA. In many cases, a specialization in MA is even considered an important requirement (Ahrens and Chapmann, 2000). Becker et al. (2011) showed that within business administration studies at university, 88% of bachelor graduates and 79% of master graduates had to complete at least one MA course during their studies. Moreover, in 78% of bachelor business administration programs and 73% of master business administration programs, at least one MA specialization could be chosen.

However, the education of management accountants in Germany receives the same criticism as education for managers. It is perceived as inefficient and lacking an orientation towards business needs, for example through intensified application of case studies in lectures (Weber, 2007; Endenich, 2012). However, this does not hold true for the content itself because Reimer and Orth (2008) have demonstrated that important behavioral aspects are at least partially taught in universities. Yet, the application was strongly influenced by the professors' understanding of MA. To summarize, in Germany university education itself is perceived as strongly formal analytically and abstract theoretically.

4.2.1.3 Assessment and further implications

The MA education in the two countries is based on university education. The actual implementation of MA as a discipline or subject for specialization remains substantially higher in Germany than in China.

In China, the superior positioning of FA was found to be grounded in the planned economy system. Therefore, I infer that the low level of MA implementation in universities is attributable to the excessively high positioning of FA relative to MA (Islam and Kantor, 2005). It can be deduced that the low implementation has hindered Chinese management accountants in developing towards a role as business partners. Especially in terms of working side-by-side with managers, a respected university education could enhance the acceptance and hierarchical positioning of management accountants within organizations.

Moreover, the practical dissemination can also only take place if employees are equipped with the necessary capabilities and knowledge. Hence, I suggest that the more limited spread of MA is, at least to some extent, attributable to the lagging university education. This is in accordance with several similar statements found in the literature on Chinese MA (Chow, 2007; Zheng, 2012). For instance, Scapens and Meng (1993) observed that a number of Western decision-making and control methods had been adopted. Yet, they noted that the spread of these techniques and concepts was held back by a lack of knowledge on the part of the average Chinese accounting personnel.

On the contrary, in Germany university education has been closely aligned with the development of MA from an early stage. For instance, Schmalenbach was not only an entrepreneur but also a university professor, and Erich Gutenberg had several lectureships as well. Although MA did not have dedicated professors in the first and second phases, it seems logical that knowledge of MA was transferred to students. The educational breakthrough became truly evident with the first specialized MA professorship of Peter Horváth in the beginning of the third phase.

I assume that the strong German background in university education was one of the major reasons that supported the high diffusion of cost and management accounting throughout German business practices. It can also be considered responsible for the detail that is specific to German cost accounting and its high adoption rates. Furthermore, it also

accounts for the continued existence of the two-circle accounting system which is included in virtually every MA introduction course at universities.

Based on this, I infer that the importance of a university degree with an MA specialization is strongly connected with the well-established MA education in Germany. Moreover, I conclude that the high education standard has driven the role of management accountants towards that of business partners. For instance, Reimer and Orth (2008) showed that behavioral aspects are taught in German universities. Although the application was strongly influenced by the professors' understanding of MA, this indicates that the role of business partner is supported by a content-related university education. On the contrary, the content taught in China appears to be limited to technical tools and methods of MA (Chow, 2007).

Furthermore, I infer that the requirement of a business degree with an MA specialization to gain employment as management accountant in Germany explains the widespread hierarchical position of management accountants. Gradually, this established a business standard that might have stimulated the acceptance of management accountants within organizations and especially among the management. Development towards a comparable standard cannot yet be observed in China.

In the future, I expect Chinese MA to be more strongly influenced by professional MA institutions such as the CIMA or IMA. The newly established endorsement of accounting programs at highly regarded Chinese universities can be interpreted as a milestone and may spur a future paradigm shift. In my opinion, the combination of university education and professional institutions is a meaningful approach to overcome the hindering influence of MA education.

To summarize, I perceive the influence of Chinese MA education as a factor which hindered its spread in practice and prevented a shift towards the role of business partner. However, recent developments allow me to conclude that the influence of education on Chinese MA is about to change. I infer that the establishment of professional MA institutions will help to catalyze MA education, which will subsequently influence the overall practice positively.

In regard to German MA education, I have observed a positive influence at a constant medium-high level until its peak in the third phase. Afterwards, a sustained influence on

contemporary MA practice and shift towards a business partner role can be assumed. For the future development of the educational influence, I expect a consistently high positive impact, which can help the practice to develop an even stronger strategic perspective and support the transformation of management accountants into change agents.

4.2.2 Academia

4.2.2.1 China

Most of the academic research published so far has focused on practical research rather than developing new ideas and concepts. In fact, the adoption of Western MA practices is a common thread throughout the English-language research. This is in line with a literature review performed by Duh et al. (2008) incorporating Chinese and foreign research. They found that due to the lack of theory application and other methodological limitations, no deep understanding or potential guidance of MA development is observable in China.

Additionally, it has been demonstrated that the research is strongly characterized by qualitative methods and case studies. Analytical modeling is nearly nonexistent, and experimental studies are completely absent.

Therefore, Duh et al. (2005) state that despite the useful information that normative and conceptual articles contain, the lack of empirical and theoretical foundations as well as methodological weaknesses make it difficult to evaluate their validity. To explain this, they invoke the limited number of researchers with profound knowledge of the disciplines being researched.

Only a small group of researchers have doctoral qualifications. Most researchers were trained domestically and exclusively by one supervisor. Consequently, this has led to a very narrow knowledge base accompanied by a low level of methodological and theoretical training. Additionally, from a doctoral perspective, there is an observable lack of interest in MA (Duh et al., 2005).

Liu (2009) displays a similar view of Chinese MA theory. She states that no persistent, complete, or effective theoretical MA framework exists in China. Mostly, MA research focuses on translating foreign literature without taking into consideration the current

situation in China. She also criticizes the availability of textbooks, as their structure and wording varies greatly.

Only in 1997 did the government begin to show some interest in MA theory, initiating a national MA research contest. Another similar contest was organized two years later. Also in 1999, the government founded a special interest section for the MA practice (Chow, 2007).

4.2.2.2 Germany

In a literature overview, Wagenhofer (2006) found that MA research in Germany is traditionally highly quantitative and relies primarily on production and economic theories. Qualitative methods do not yet have a long history. Samples of empirical research are mostly based on case studies and analytical economics-based research occurs most frequently in German journals. The same is true of international publications by German scholars.

Wagenhofer (2006) also concludes that the most valuable contribution of German scholars to international research is analytical economics-based research. Wagenhofer (2006) suggests that the formal abstract theoretical university education of German researchers provides them with a competitive advantage in quantitative techniques and methods. This might also be the case for empirical research methods. Another reason can be seen in abstraction based on specific German cases, which makes this research attractive to the international community.

However, due to the language barrier, German articles are rarely cited internationally and the MA research in Germany has only slowly begun to incorporate international MA issues (Wagenhofer (2006).

Throughout the historical description of MA development in Germany in Chapter 3.1.2, a close connection between theoretical development and practical dissemination of MA techniques and methods is evident. Again, Schmalenbach can be taken as an example. The same is true of Wolfgang Kilger and Hans Plaut, who provided the theoretical and practical foundations of the marginal planned cost accounting. Currently, Peter Horváth is advancing this argument further.

4.2.2.3 Assessment and further implications

The implications of both literature reviews draw a picture similar to that of the educational influence. The research in the two countries varies strongly. In Germany, scholars are highly quantitative and consistently use production and economic theories. On the contrary, Chinese scholars focus on normative and conceptual research while lacking economic foundations.

The dedication of scholars to MA varies strongly between the countries too. In Germany, strong academic support was observed throughout all three phases. Naturally, the more this dedication increased, the more the spread of MA progressed. Again, the development of professorships in MA in figure 5 on page 31 points to the overall peak of academic discussions in the third phase in Germany.

In China, during the first two phases the academic support was very weak. Even successful cases such as the internal bank system or the market simulation-based accounting and cost negation of Handan Iron & Steel Co. Ltd. have not received much attention in the literature, nor could systematic research be observed (Zheng, 2012). Hence, for both these Chinese peculiarities, very little academic support was found. The overall academic influence on the development of Chinese MA appears to me to be equally weak in the first two phases, whereas a rise can be observed in the third phase. However, the influence remains very limited. It is important to note that the lack of academic support might have significantly contributed to the overall development of Chinese MA. It explains why MA practice in China is modelled very closely on the US system. Chinese scholars focused from the very beginning on normative studies about the adoption of Western MA rather than on tailoring and customizing MA to the Chinese situation.

In Germany, I consider the academic support crucial for the development of MA. From the very beginning, German MA was grounded in an interaction between theory and practice starting with Schmalenbach, through Gutenberg, Kilger, and Plaut, and up to Horváth. The development of German MA is to a large extent based on the isolated development of tools and methods customized to the German situation. For instance, although direct costing had already been developed in the US in the 1920s, marginal planned cost accounting developed independently. It contains distinct features which were tailored to the German business practices and cost accounting system. The same is true of the development of

ABC and process cost accounting, according to Peter Horváth. This also indicates that the emergence of the German methodological peculiarities are to a large extent attributable to the academic discipline.

Moreover, both process cost accounting and marginal planned cost accounting were developed hand in hand with the software necessary to implement the methods. This again supports the suggestion of a close relationship between business practice and theory in Germany. The management consultancy founded by Peter Horváth provides a more recent example. Horváth & Partners is especially known for its profound knowledge of MA and clearly influenced by its founder's academic success.

Yet, in my opinion the true force behind German MA development does not lie in practice but is grounded in theoretical discussions. This in line with Ahrens and Chapman (1999), who concluded that the German development in MA was significantly driven by new ideas and concepts from scholars and academics and less concerned about practical research (Ahrens and Chapman, 1999).

This seems to hold true for the roles of German management accountants as well. It has been demonstrated that the fourth role of management accountants can only be found rarely in German companies so far. Nevertheless, a wide range of literature about the change agent role is already available (Horváth, 2015; Plag, 2016; Pötsch, 2012). From this I infer that the academic discussion strongly has influenced the development of the role of management accountants. As the academic support was already substantial in the first two phases, I assume that scholars also influenced the role in those phases. For Chinese management accountants, no comparable influence that could have shaped the role can be identified.

In summary, in my opinion the academic influence on German MA is very strong and can be observed throughout all three phases. Moreover, its effects reveal sustained influence on contemporary German MA practice. As to further development, I predict a continuously strong effect which could shape the future role of management accountants in particular.

In China, I observe a comparably low academic influence on MA practice. Only in the third phase has its importance appeared to increase. I predict that future academic influence will have a moderate effect on Chinese MA. However, I foresee a strong future influence

under the condition that Chinese scholars manage to turn towards customizing MA to the Chinese situation.

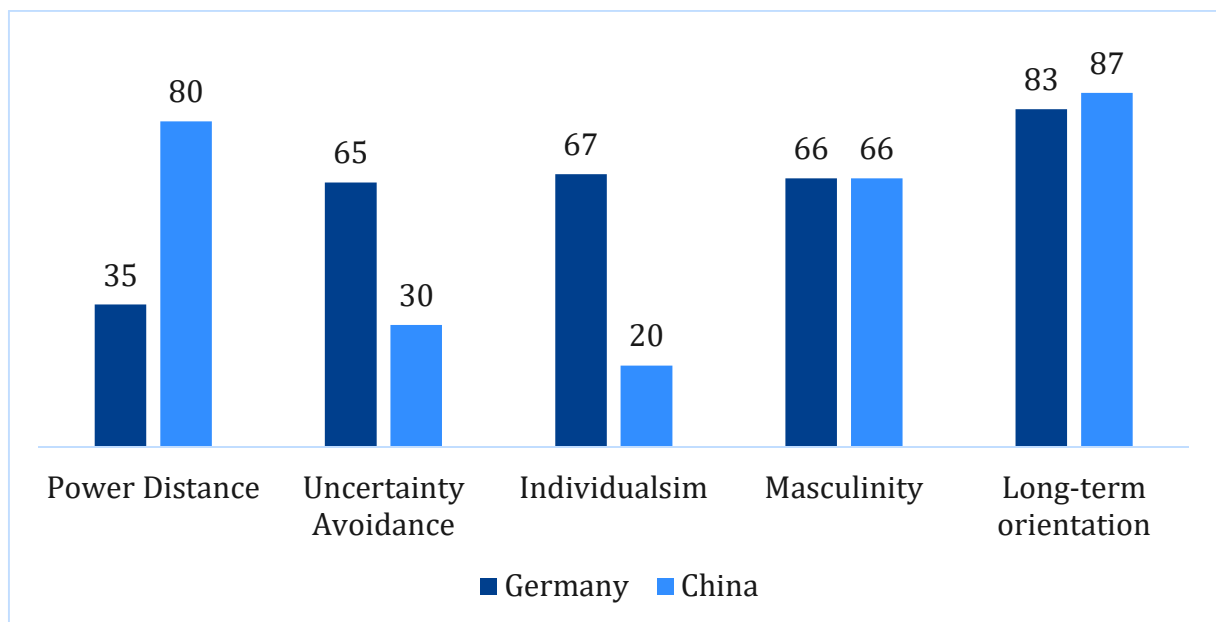
4.3 Cultural influences

In the following, the possible consequences of cultural influences on the conceptual development of Chinese and German MA are derived. As a framework for the comparative analysis, Hofstede's cultural dimensions theory is used. It is presumably the most frequently applied theory in this context.

Hofstede's cultural dimensions theory was based on a survey among IBM employees. It is built upon six different dimensions. The theory aims to provide a structure for analyzing and comparing the characteristics of different cultures. For this purpose, the scores for each country's dimensions are measured relative to other countries (Hofstede, 2011).

Due to the relatively recent introduction of the sixth dimension – indulgence – no significant research evidence could be found in terms of MA. Consequently, this thesis focuses on the remaining five dimensions. A detailed description of the fundamentals of each dimension can be found in table 15 in the appendix. Figure 10 displays the current scores for each dimension for Germany and China.

Figure 10: Comparison of cultural dimensions



Source: own representation based on Hofstede (2017).

The aim of this chapter is to illustrate briefly how cultural influences may have influenced the development of MA practices in the two countries. Therefore, examples from existing studies are used as a starting point to evaluate each cultural dimension individually.

4.3.1 Cultural comparison

4.3.1.1 Power Distance

With a score of 35, Germany is one of the small power distance countries (Hofstede, 2011). Superiors tend to depend much upon their subordinates. Germany is characterized by a strong middle class and decentralization. Consequently, co-determination rights are far-reaching. This can also be observed in the extensive employment protection and strong influence of labor unions (Du Plessis, et al., 2007). An unequal distribution of power is therefore generally not accepted. Hence, leadership in Germany is based on expertise, which is considered an acceptable reason for hierarchies to exist.

With a score of 80 China is one of the high power distance countries. Compared to Germans, Chinese subordinates greatly depend on their superiors. In China, co-determination rights are only partly available and their effectiveness for workers is questionable (Tenev et al., 2002). The high score reveals that China's culture is characterized by a strict hierarchy, and leadership is based on authority. Important decisions are only made by high-ranking people; especially older leaders and managers traditionally carry the highest authority (Zinzius, 2004). In contrast with Germany, the Chinese accept and expect an unequal distribution of power in the form of hierarchical layers without questioning it. High power distance commonly suggests that such countries are characterized by more hierarchies than low power distance countries such as Germany. Consequently, the opinion of subordinates in China is perceived as less important than in countries such as Germany.

Hui and Xuyi (2009) drew implications from the problem-solving differences between Germans and Chinese controllers in the application and performance of MA processes. German culture displays a linear way of thinking. Conflicts are addressed openly, and opinions, suggestions, and criticism are voiced directly. The German way of problem-solving tackles the nub of problems. Thus, the overall MA is transparent and plans are easy to develop and implement. Chinese culture is the opposite. Problems are addressed

indirectly or not at all. Opinions are seldom expressed in an open manner; instead, they often remain unexpressed. A reason for this is the high degree of overlap between personal and professional relations, which explains the fear of straining personal relationships when disagreeing with a superior. Thus, processes tend to be slower and more complex (Hui and Xuyi, 2009).

These findings are in line with an experimental study by Chow et al. (1999). They found that in Chinese-based cultures, sharing information which might be potentially damaging for the person possessing the information is especially constrained by the presence of a superior. They concluded that one of the reasons for this is the fear of losing face in front of the superior, who is perceived as a greater authority and decision-maker. The effect in a low power distance country (Australia) was considerably lower.

I perceive the willingness to share information and express one's own opinion as well as problem-solving thinking as crucial to the role of management accountants. The results of Chow et al. (1999) and Hui and Xuyi (2009) are especially relevant to the business partner role. As a sparring partner for the management, it is crucial to challenge the management's plans. Authority in this case should be overridden by the economic rationale. This means that true business partners must not be afraid to share information and their opinion with the management in order to ensure the long-term success of the organization.

The low power distance of Germany especially seems to encourage business partnering. Hierarchies are flat and management accountants are perceived as equals among managers. This facilitates the open and direct expression of opinions, even if considered critical, towards the management. Simultaneously, the management is willing to incorporate such opinions even if they come from a lower hierarchical level. In China, more of the contrary seems to apply. The high power distance increases the hierarchical differences of the already relatively low position of management accountants.

4.3.1.2 Individualism

With a score of 67, German culture can be considered individualistic (Hofstede, 2011). Germans tend to focus more on themselves and their immediate family members rather than their society. Relationships in general appear to be loose. That is why Germans

primarily pursue their own objectives, which leads to a high level of competition. The score also indicates that people in Germany are keen to maintain their personal freedom and their possibility for self-actualization.

With a score of 20, China's culture is characterized by collectivism. China is considered a family-run country where in-group members have close relationships. Thus, harmony as well as integrity are particularly high priorities (Bittner, 2007). Compared to Germans, Chinese people put aside individual needs and desires to serve the wellbeing of the group. Moreover, communism in China is closely linked with the idea of collectivism. In both collectivism and communism, each person is supposed to play an active part in promoting the common good by deemphasizing individual goals.

For instance, Hoffjan and Boucoiran (2008) state that Germans seek independence within budgeting processes in order to pursue individual aims. Therefore, performance measurements in individualistic cultures should target measures of individual achievement. Tsui (2001) found that the opposite is true for China, where a low participation in the budgetary process prevails and performance measurement should target group achievements rather than individual success.

The strong group orientation of responsibility accounting can be explained based on the planned economy period in China, whereas the German responsibility accounting perspective is more individualistic. Based on this dimension, it is natural to assume Chinese responsibility accounting has remained more focused on a group orientation.

In this regard, the BSC adoption rates in China and Germany are also interesting. The BSC itself was developed in the US – a highly individualistic country. Among other dimensions, it contains personal scorecards for each employee, consisting of company, department, and individual performance measures. This is in line with the individualistic German culture, which should aim for individual performance measurements, but not with the highly collective Chinese culture. Consequently, the adoption rate in Germany should be considerably higher than in China. Yet, they are nearly the same (Chow et al., 2007; Schachner et al., 2006). A possible explanation could be that in China measures are only applied on a department or company level, which would be in line with the group-orientation of Chinese responsibility accounting. However, it could also be traced back to

the early exposure through the measurement system for company performance evaluation.

Certainly, the BSC example illustrates how diverse cultural effects can be and how difficult it is to establish meaningful cause-and-effect relationships.

Another finding, provided by Chanegrih (2015), shows that collectivism may influence the willingness to change existing MA systems. Highly collective cultures resist the elimination of MA systems because people value interpersonal harmony more. This is in line with the findings on high power distance. On the contrary, highly individualistic countries (France) tend to reinforce MA systems and add increasingly innovative solutions to existing MA systems.

The willingness to change the status quo in order to spur performance through innovation can be considered an important characteristic of management accountants. This holds especially true for China, which faced many economic and political changes in the past. However, the high collectivism in combination with high power distance might be one of the reasons why Chinese MA is still facing a subordinate position relative to the FA and managers. In Germany, it can be assumed that the combination of low power distance and individualism has positively influenced the organizational position of management accountants. Moreover, the willingness to alter the status quo is naturally a fundamental characteristic of the change agent role.

4.3.1.3 Uncertainty Avoidance

With a score of 65, Germany is one of the uncertainty-avoiding countries (Hofstede, 2011). Germans are not tolerant of ambiguity. To avoid changes, as well as new and unstructured situations, they tend to plan everything carefully. Also, rules and regulations ensure a clear structure. Consequently, the German legal system is characterized by many details and special cases. In combination with the low power distance, this score indicates that Germans rely greatly on experts to fulfil their need for security (Ahlstrom and Bruton, 2010).

China has a score of 30. Thus, Chinese people feel more comfortable if changes take place or if unfamiliar situations arise. Compared to Germany, rules and regulations are more flexible to the current situation. This might be attributable to the political and historical

changes in the past (Amtmann, 2005). In combination with China's collectivism, the uncertainty avoidance score indicates that loyalty and close relationships reduce uncertainty. Moreover, the Chinese are innovative and flexible because they are open-minded towards new ideas.

In German MA, many processes and activities are standardized to a very detailed level, and managers tend to incorporate more details in routine activities. Both illustrate the urge to decrease the level of uncertainty and ambiguity. Based on this, the MA system in Germany should incorporate detailed reports to satisfy the complex needs of managers in order to avoid uncertainty. The same is true for budgeting processes and forecasting (Hoffjan and Boucoiran, 2008). Chanegrih (2015) showed that the opposite is true when it comes to Chinese-based cultures (e.g. Singapore). He found that high uncertainty-avoidance cultures try to introduce more measures of performance in order to reduce uncertainty. Low uncertainty countries introduce significantly fewer measures of performance.

An example of the urge to incorporate details and accuracy to avoid uncertainty can be seen in the application of the marginal planned cost accounting in Germany. Also, this accounts for the nearly exclusive employment of management accountants with a business degree and MA specialization to run sophisticated and comprehensive controlling systems. Moreover, costs included in reports are not acceptable for financial reporting as they are redefined especially for management purposes (imputed costs). Hence, the German two-circle cost system appears to align with high uncertainty avoidance.

Process cost accounting as well as marginal planned cost accounting are formally integrated throughout companies to generate consistent information entity-wide. Additionally, the use of both techniques provides punctual and frequent data for short-term decision-making, budgeting, and planning. The widespread usage of sophisticated company resource systems even allows German companies to leverage online and real-time cost analysis (MacArthur, 2006). The application of this two techniques appears to be in line with high uncertainty avoidance as well.

In China, neither of these techniques is applied, nor are company resource systems comparably widespread. The application of ABC, a technique similar to process cost

accounting, focuses primarily on retrospective modeling. Moreover, it has been demonstrated that Chinese management accountants are not trained as intensively or as specialized as their German counterparts. It is also evident that a great barrier for Chinese MA is the lack of modern MA software.

To summarize, the high uncertainty avoidance of Germany can explain the country-specific emergence of its detailed and widespread cost accounting, as well as both German methodological peculiarities. Also, the nationwide standardization of job requirements, namely MA-specialized university education, illustrates German managers' reliance on expertise. The relatively lower presence of all these aspects in China can be attributed to the considerably lower uncertainty avoidance.

4.3.1.4 Masculinity and Femininity

With scores of 66, both Germany and China are considered masculine countries. Most German-speaking countries display a similar masculinity (Hofstede, 2011). This indicates that in Germany values such as assertiveness, competitiveness, materialism, and pursuit of success prevail. The male-driven German labor market embodies this view. Women in Germany work less often, earn 19%-20% less than men, and occupy hardly any high managerial positions (Geißler, 2014).

A similar imbalance between men and women can be observed in China. Although women officially have the same rights as men, in practice they are rarely found in managerial positions. China is also often characterized as a senior-dominated country. Nevertheless, Alidi (2008) states that masculinity in China is more smoothly than in Germany, which is evidenced by more flexible behavior, harmony, and conflict avoidance. For example, solving disputes through the ability to adapt, restraint, and kindness are wrongly perceived as cowardice by Germans (Alidi, 2008, Reuter, 2014).

Hoffjan and Boucoiran, (2008) determine that conflicts and leadership are assumed to be in compliance with the rules in Germany. Moreover, they state that a more direct way of communication is assumed. Due to people's high aspirations for success and performance, remuneration is expected to be closely linked with individual performance. The Chinese masculine culture appears to be more influenced by the senior-oriented society than by typical masculine values. This can be traced back to the aspiration to ensure harmony and

conflict avoidance (Adili, 2008). As a result, the implications for MA derived by Hoffjan and Boucoiran (2008) cannot easily be transferred to China.

However, to some extent, the two masculine values overlap. For instance, Liu and Nouri (2009) found that both the US and China are masculine cultures. German culture also fits this evaluation. As the BSC values scale and efficiency, it is in line with both German and Chinese culture in terms of masculinity.

In my opinion, the influence of masculinity on MA practices is very limited in the two countries. It is difficult to infer any convergence of the two MA practices based on the same masculinity score. Likewise, the different forms of masculinity cannot be considered directly responsible for the differences in the MA practices either.

4.3.1.5 Long-term and short-term orientation

With a score of 83 for Germany and 87 for China, both countries are considered long-term oriented countries (Hofstede, 2011). Thus, they are considered pragmatic and adaptable to changing conditions. They also display a tendency to save up in order to achieve certain objectives (Hofstede, 2011; Hofstede and Minkov, 2010). German companies generally display long-term strategic planning, long-term investments, and the maximizing of future profits. Managers are given tasks to develop and must communicate a vision to guide employees through an uncertain future (Klann, 2016).

In China, indirect implementation of strategies prevails. Chinese people are characterized by perseverance, which, combined with conservation of resources and indirect target achievements, may lead to slow results. This in line with the long-term strategy of Chinese companies to reach strong market positions by accepting lower short-term profits. Moreover, short-term personal gains should be secondary when it comes to maintaining long relationships (Hofstede and Minkov, 2010).

Compared to the first three dimensions, the differences in long-term orientation are rather small. German culture can be perceived as slightly more focused on the present and past compared to Chinese culture. Consequently, information and values concerning the past and present as well as their accuracy are emphasized in Germany. This leads to shorter and more regular reporting cycles (Hoffjan and Boucoiran, 2008).

Chanegrih (2015) states that a long-term orientation is closely connected to planning. Based on this, he found that countries with that place a high value on long-term orientation change their planning systems more frequently than countries with a lower score, which would be in line with China.

A long-term orientation also indicates the allocation of resources towards strategic planning, which should, based on the scores, be slightly stronger in China. However, one of the characteristics identified in German MA is the strong strategic focus. I perceive the level of future-orientation of Chinese MA as significantly lower compared to Germany. As a result, I consider that the high long-term cultural orientation of China will drive the MA development towards a more future- and strategy-oriented perspective. The same can be assumed for the German practice as well.

4.3.2 Further implications

The analysis in the previous subchapter revealed the mixed influences of the Chinese and German culture on the development of the two countries' MA practices. It was shown that cultural influence can be highly contextual. Additionally, the analysis was only based on a very limited number of the possible components of the practices.

Nevertheless, I perceive the influence of power distance, individualism, uncertainty avoidance, and long-term orientation as equally strong. The first three factors display the highest differences in scores, which implies that they are likely to lead the two practices in opposite directions. In the following, possible future influences are derived based on the perspective of individual dimensions.

In my opinion, the high power distance in China will considerably hinder the further the move of management accountants towards becoming business partners. The opposite effect presumably holds true for German management accountants. Naturally, the shift towards the change agent role follows the same rationale.

Concerning the influence of individualism versus collectivism on the further development of MA in China, I assume that the existing organizational structure will not change in the near future, as this would lead to interpersonal disharmonies. In Germany, I assume that the high level of individualism will drive a further shift towards the change agent role.

As for the influence of the high uncertainty avoidance in Germany, I assume that it will lead to a combination of the progressing digitization with the opportunities of MA to further decrease uncertainty with detailed cost accounting data and analysis. For China, I do not perceive the low uncertainty avoidance as hindering MA development, but rather as an opportunity for greater diffusion of Western MA practices, especially in Chinese SMEs.

The influence of the nearly equal long-term orientation of the two countries can be assessed as a strong motivator of convergence. However, this indicates that Chinese MA strengthens its strategic perspective faster than the German MA increases its own strategic orientation.

In regard to the equally masculine dimension of both countries, I see no similar influence on a convergence as perceived for the long-term orientation. Therefore, in my assessment this dimension will have no direct influence on future MA development.

5 Conclusion

The primary objective of my master thesis was to compare MA and controlling practices in the People's Republic of China and Germany. Thus, I started by analyzing the conceptual development over time by categorizing the spread of the methods and explaining conceptual differences in more detail. Afterwards, I identified, described, and evaluated three main macroeconomic factors that appeared to have influenced the development of MA in the two countries. For each of the identified factors, the future implications for the further development of MA were derived.

In the introductory depiction of CMA, it was stated that currently, large parts of Asia, Latin America, and Eastern Europe have not yet been the objects of investigations into CMA. However, developing countries can serve as especially interesting research subjects for comparisons with Anglo-Saxon and European countries, but also on a regional level. Cultural and political developments provide a particularly intriguing framework to study the adoption of MA practices in these countries.

Today, China and Germany display major differences in the contemporary dissemination of MA in business practice. German MA was categorized as being in a stage where it mainly focuses on a management- and value-creation-orientated approach. Moreover, it was demonstrated that German SMEs are mainly in a transitional period for waste reduction in business processes. Chinese MA was characterized as being in a transitional period for waste reduction in business processes, yet in earlier stages, a stronger focus on value creation could be observed. Chinese SMEs appeared to be focused on cost determination and financial control and on the provision of information for management planning and control. Additionally, regarding China it was concluded that the overall application of MA is relatively isolated and scattered.

Addressing the two processes of conceptual development revealed a range of differences. The most significant one is the delimitation of FA and MA in combination with the usage of the Chinese general ledger and the German two-circle accounting system. From similar significance is the difference in the overall orientation of both MA practices. In Germany an internationally unique system, customized and tailored to Germany's circumstances, evolved over time. In China, the consistent adoption of US practices prevailed and led to barely any observable adjustments to the Chinese situation. Moreover, in Germany MA is

mostly organized in separate departments, while in China dedicated MA departments can rarely be found. Mostly, the responsibilities are shared among all departments.

Furthermore, the scope of tasks performed by Chinese management accountants is considerably smaller than that of their German counterparts. Management accountants in China focus on reporting information rather than performing actual controlling. Additionally, German management accountants are mostly positioned in the second hierarchical level within an organization, whereas in China a lower position, especially relative to financial accountants, is more common. Both their hierarchical positions and fields of activities lead to German management accountants' acting as business partners, inspectors, and analysts. However, Chinese management accountants act as inspectors and analysts. It is particularly surprising that in China, no tendency towards the business partner role can be observed yet.

For the subsequent analysis, I identified three categories with different factors. It was revealed that most of the differences between German and Chinese MA can be allocated to those factors. Generally, I found that attributing these differences to economic, political, foreign, education, and academia is more feasible than ascribing them to cultural influences. The respective ascriptions to the latter were vaguer. Altogether, in my opinion, the three chosen categories offer a valuable framework to explain the wide range of differences between German and Chinese MA.

For the first category, economic, political, and foreign factors were identified. Over time, a cause-and-effect relationship was observed among the three factors in China. The governmental role influenced the economic system, which in turn activated the influence of a foreign party. In Germany, a cause-and-effect relationship was only observed between the economic and foreign factors in the third phase. Generally, the economic effect was dominant over time in Germany.

In the future development of Chinese MA, I expect the foreign influence to prevail. As a result, the future development of Chinese MA will likely be driven mainly by external impulses from foreign partners. I expect the development in Germany to be dominated by the influence of economic factors. This will lead to a digital operational MA and an even stronger strategic focus.

The second category comprises education and academia as influencers. Educational influences were especially hindering Chinese management accountants' move towards becoming business partners, whereas the opposite is true for Germany. The influence of academia was identified as the primary factor behind the German development of MA from the inside out and for the Chinese adoption of Western methods.

I expect both factors to influence the future development of Chinese MA positively, especially the role of Chinese management accountants. This is based on the recent turnaround of both influences. For Germany, I expect that both factors will continue to exert positive influences, which will not only encourage the strategic perspective in MA but also the transformation of management accountants into change agents.

The third category comprised Hofstede's first five cultural dimensions. I demonstrated that the cultural dimensions have influenced the development of MA practices in the two countries. Moreover, I found that the cultural influence can be highly contextual in terms of its effect on MA. Differences in MA could only partially be allocated to cultural differences.

However, one of the strongest influences was power distance. It greatly hinders Chinese management accountants' development towards becoming business partners, whereas it supports their German counterparts in their transformation into change agents.

I suggest that more research on the role of Chinese management accountants as a fundamental part of the MA practice is needed. This might also help to transform Chinese management accountants into business partners.

Moreover, I suggest that more detailed studies with narrower subjects, especially on the influence of culture, could further enhance different countries' understanding of each other's practices. For example, a proper academic processing of the internal bank system might offer a valuable best practice for collectivist countries.

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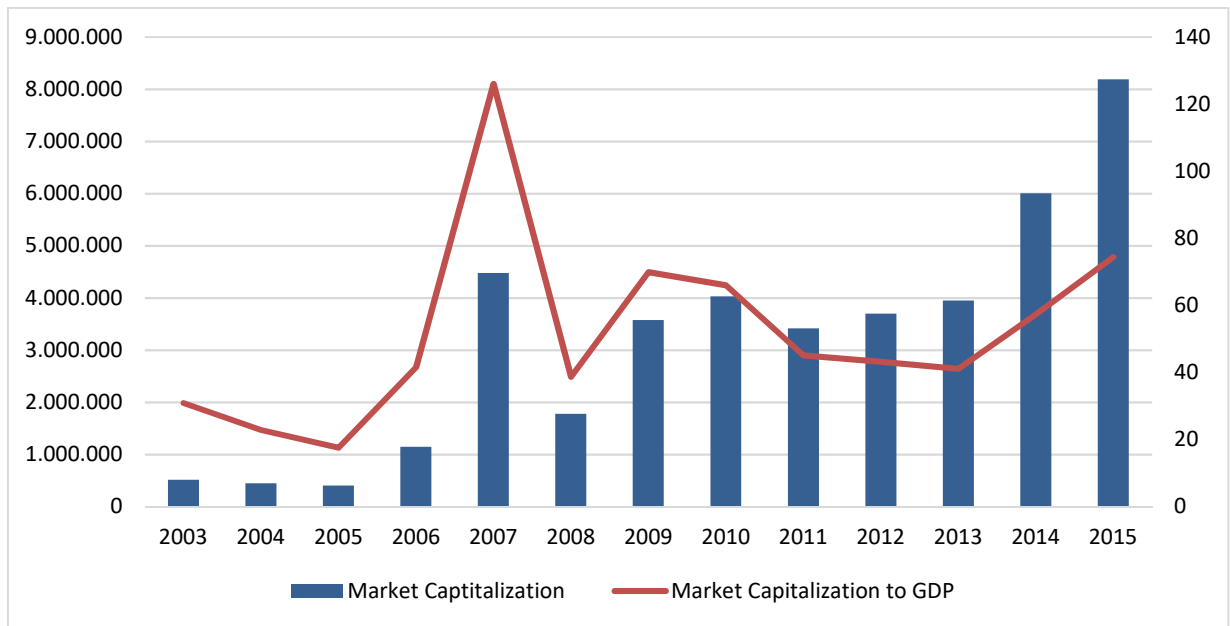
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Appendix

Figure 11: Market Capitalization to GDP and Market Capitalization



Source: own representation based on *The World Bank* (2017).

Table 13: MA instruments in China 2004

MA Practices		Percent of adopter and implementation
Cost behavior analysis		77.31
ABC		52.20
ABM		37.25
Cost allocation		70.73
Product life cycle accounting		70.23
Environmental accounting		36.18
Competitor analysis		56.42
Cost benchmarking		66.06
Standard costing		24.04
Target Costing		64.19
Kaizen costing		51.76
Quality cost reporting		58.45
Value chain analysis		48.31
Operating Budget	Budgets prepared for cash/working capital	91.52
	Budgets are prepared for sales	95.56
	Profit budgets are prepared	97.78
	Production budgets are prepared	95.09
Decision techniques	CVP used in decision-making	81.90
	“What if” analysis used in decision-making	57.69
	Decision trees used in decision-making	45.59
Capital budgeting	NPV	72.17
	IRR	66.67
	Payback	79.17
	ARR	69.19
Performance measures	Economic value added (EVA)	48.00
	Return on investment	62.56
	Residual income	43.56
Transfer pricing	Market based	65.55
	Cost based	65.89
	Negotiated	51.44
	Internal bank	33.02
Use of information and communications technology (ICT)		8.74
Enterprise resource planning software		42.65
Responsibility accounting		73.64
Balanced Scorecard		39.04
Subjective performance evaluation		63.08
Environment scanning		66.51
Managers in top 25% paid > those in the bottom 25%		75.74
Performance bonus plus a fixed salary for manager		91.12
Performance bonus plus a fixed salary for employees		84.65

Source: own representation based on Chow et al. (2007).

Table 14: MA instruments in Germany

Instrument	Application rate
Friedl (2009)	
Cost accounting systems	
Actual cost accounting	95.6%
Marginal planned cost accounting	91.1%
Differentiation of fixed and variable costs	86.7%
Contribution margin accounting	68.9%
One-level contribution margin accounting	8.9%
Multiple-level contribution margin accounting	48.9%
Multiple multiple-level contribution margin accounting	11.1%
Process cost accounting	31%
Cost type accounting	97.8%
Cost center accounting	97.8%
Cost unit accounting	62.2%
Operating income statement	84.4%
SAP/R3	78.3%
SAP BW	45.7%
Individual Software	26.1%
Hyperion	10.9%
Professional Planer	8.7%
Kajüter (2005)	
Target costing	55%
Process cost accounting	46%
Benchmarking	90%
Life-cycle costing	26%
Held (2009)	
Target costing	59%
Process cost accounting	59%
Life-cycle costing	25%
Homburg, 2001	
Target costing	10%
Process cost accounting	2%
Life-cycle costing	4%
Währisch (1998)	
Static methods	43.8%
Dynamic methods	59.5%
Speckbacher et al. (2003)	
BSC	26%
Schachner et al. (2006)	
BSC	35%
Hauser and Panzau (2012)	
Strategic capital allocation within the planning process	74%
Gitt et al. (2013)	
Application of value based measures (large companies, in 2010)	81%
Application of value based measures (big companies, in 2010)	75%
Application of value based measures (medium companies, in 2010)	40%
Application of value based measures (small companies, in 2010)	11%

Source: own representation.

Table 15: Description cultural dimensions

<p><i>Power distance</i> describes how individuals of a collective feel about the distribution of power (Hofstede, G., 2011). It characterizes the dependence relationships in a country. A large power distance indicates that subordinates depend on their superiors. Subordinates either prefer or totally reject this kind of dependency. Moreover there are many supervisors and only people positioned in high ranks make decisions (Dainton, M. and Zelley, E. D., 2014). In small-power-distant countries the dependency between supervisors and subordinates is rather small. People at the higher end of the hierarchy are not superior to others. Both consult and treat each other as equals, as well as discuss decisions jointly. Emotionally both are closer to each other than high-power-distant countries.</p>
<p><i>Uncertainty avoidance</i> indicates how a culture deals with unknown and un-structured situation or ambiguity resulting from changes or unexpected events (Hofstede, G., 2011). As a consequence, stress and the need for predictability emerges. Cultures with a high uncertainty avoidance try to avoid ambiguity through strict rules and codes of behavior. People are in need of clear structures. Cultures with a low uncertainty avoidance are open to ambiguity. People accept taking risks and try to develop new ways of thinking (Dainton, M. and Zelley, E. D., 2014). There is a high tolerance towards new ideas and formal rules and regulations are disliked.</p>
<p><i>Individualism and collectivism</i> “is the degree to which people in a society are integrated into groups” (Hofstede, G., 2011). People in individualistic cultures primarily focus on themselves, respectively their immediate family. An individual uniqueness is valued and individual achievements are being rewarded (Dainton, M. and Zelley, E. D., 2014). Relationships and ties are rather loose. On the contrary, people in collectivistic cultures are strongly integrated in groups. Mutual loyalty is the basis for protecting each other in an extended family. The needs of the group and the own obligation to the group are more important than individual desires. Moreover the collectivistic side seeks for cooperation instead of competition (Hofstede, G., 2011).</p>
<p><i>Masculinity and Femininity</i> show what characteristics each culture relates to in terms of social emotional roles. Cultures that tend masculinity mainly display values connected to the male social such as assertiveness and competition with a focus on work instead of family. Feminine culture are connected to the female social role and values like caring and cooperation while having a balance between work and life/family (Hofstede, 2011).</p>
<p><i>Long-term and short term orientation</i> distinguishes whether people chose to focus on the future or the present and past (Hofstede, 2011). The dimension was added as a fifth dimension which was initially based on Confucianism. Countries historically connected to Confucianism were associated with hard work and recent economic growth. Hofstede renamed into long-term and</p>

short-term orientation in order to make it more feasible. In 2010 it was combined with related data from the World Values survey (Hofstede and Minkov, 2010). People from long-term orientated cultures are orientated towards future rewards such as “[...] perseverance, thrift, and adapting to changing circumstances” (Hofstede, 2011). On the contrary, people from short-term orientated cultures keep tight to virtues like national pride and respect for tradition (Hofstede, 2011).

Source: own representation.