



Master Thesis

Corporate Pricing Strategies in Business to Government Relationships

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Statutory Declaration

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Abstract

Governmental customers must manage their budget with care. To preserve governmental customers' interests, corporate contractors have to comply with price law. In business to government relationships, the corporate profit is limited by legal regulations on pricing. The legal compliance is ensured by conducting price audits. While the relevant literature discusses the legitimacy of the German public procurement system and regulations, this literature does not explicitly address the corporate view of business to government.

This study combines legal aspects and corporate needs, leading to the following questions: Does the legal framework open different ways to optimize the profit margin of government related projects? Is there a possibility to simulate price audits of business case scenarios?

To answer these questions, the legal framework of public procurement is analyzed and summarized, focussing on corporate pricing requirements. Corporate pricing strategies are elaborated and tested on the basis of the scenario method. A price audit simulation is performed regarding two scenarios for an identical product content.

The results of the scenario comparison indicate that the contribution margin behaves like a breakeven point. The reason for that is that identical product contents can be priced with different values, depending on the chosen price form. However, the number of requested products also influences the contribution margin. This indicates that a scenario no longer appears to be the favourable scenario in a scenario comparison if another product quantity is applied.

Finally, the author concludes that another pricing strategy has appeared, which could be a potential prospective research area under ethical aspects.

Acknowledgement

As an employee of Mercedes Benz Consult Graz GmbH, I am in pricing of customized vehicles. The idea for this thesis was to generate a comprehensive corporate manual about price auditing. It was a perfect opportunity to write down specialized knowledge and to elaborate new pricing strategies to optimize the economic situation of our customer projects.

In a first consultation with the supervising department at my university, the thesis content was considered interesting in the beginning. The subsequent mix of corporate and university objectives looked like a Gordian knot to me. This is why the assistance of a second university department has shown up as essential. In many working group sessions the structure of this thesis was developed and modified countless times.

The result gives a practical insight into a very complex and endless topic. In order to answer specific legal problems I refer to specialized literature.

My personal thanks go to the professional TUG-team: DI Verena Manninger, DI Jochen Kerschenbauer and Dr. Bernd Zunk, for their enthusiasm and input ideas.

Special thanks go to my boss at MBCG, Ing. Bernhard Gruber, for his all time trust in my will and ability to finalize this thesis including the answers on his professional questions and to solve every tricky practical problem.

Another thanks go to Dkfm. Volker Hummel, my contact person at Daimler's special department for price auditing, for giving me the practical insight into confidential procedures.

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1 Introduction

Public funds are spent among other things on governmental investments and procurements. The German procurement share, for example, is with 48.3 billion Euro (EUR) a significant part of Germany's budget.¹ The authorities represent a third party - the tax payers - and are acting on a public market when buying goods and services. According to the German Budget Law Policy ('Haushaltsgrundsätze-gesetz' - HGrG), the tax payer's money must be spent with care and conscientiously in compliance with law. Therefore, the budget-law principles of economy, efficiency and effectiveness were introduced in Germany. These principles are to ensure an economic application of funds.²

In general terms, it can be said that the customer's aims however are contradictory to every contractor's economic aims, which are based on maximizing profits and minimizing costs.

Compliance with German legislation is achieved by public competition. The task of competition law is to create a fair, economic competition. The company with the best performance in fulfilling customers' needs wins. That is the only legal way to eliminate a competitor.³ For governmental authorities it is a must to promote competition by using tendering procedures. Exceptions of this statutory procedure can only be made if there are certain conditions. If there is no competition at all, this fact can lead to higher prices.⁴ On the other hand, contractors should treat governmental customers in the same manner as private customers. The same volume discounts and rebates must be granted.⁵

The example of Germany shows that governmental procurement plays a major role on the defence products market. In 2010, the military procurement of the German Armed Forces was 5.3 billion EUR.⁶

¹ Cf. BMWI a), (2010), p. 8

² Cf. HGrG (1969), §6; Cf. MICHAELIS, H., et al (2011), p. 13

³ Cf. LINDNER, A. (2003), p. 3

⁴ Cf. ENGEL, C. (1983), p. 21

⁵ Cf. NOELLE, T.; ROGMANS, J. (2002), p. 143

⁶ Cf. BWB a), (2010), p. 4

Dealing with authorities is a big chance for companies to increase their market share in general. But in a business to government relationship, many characteristics, especially dangers, must be taken into account in order to be successful.⁷ The checklist for corporate contractors to avoid their disqualification in governmental tendering procedures is mentioned as example (Annex Q⁸).

An enterprise's existence, for instance, could be threatened if a major customer dictates prices. The power of public customers should not be underestimated and can lead into the direction of price dictation. Special products with a limited marketability are likely to be affected by these pricing practices.⁹

Another problem area in market economy is that prices are influenced by price rigging. Even if competition exists, competitors can team up with each other and set the prices to their mutual advantage. In the event of a shortage on the market, prices rise to a level higher than in a well working competition. Other common factors affecting pricing are malpractice and profiteering. They are extreme forms of abusing power in the process of pricing.¹⁰ As demonstrated above, there are many ways of conducting unfair pricing practices to gain as much profit as possible.

Price regulations were introduced by law to avoid misuse of power on prices. They should regulate the business relationships with authorities. Another intention is to protect economic existence of every contracting entity.¹¹ In the end, contracting entities are responsible for ensuring compliance with regulations by law. Governmental officers are authorized to audit enterprises' pricing procedures. After a basic verification of accounting standards they have the possibility to access in-house price calculations. If the standards are not correct, severe penalties shall ensure that companies comply to legislation.¹²

⁷ Cf. BIRGEL, K. (1994), pp. 22-23

⁸ Cf. SUBMISSIONS ANZEIGER a), (2006), <http://www.submission.de>

⁹ Cf. BIRGEL, K. (1994), p. 18

¹⁰ Cf. MICHAELIS, H., et al (2011), §5 p. 18-19; Cf. LINDNER, A. (2003), pp. 12-17

¹¹ Cf. CHORUS, M. (1988), p. 4

¹² Cf. MÜLLER, R. (1993), p. 27

1.1 Problem

The main disadvantage of price regulations is that they cannot guarantee a fair pricing to satisfy everybody's needs. Price regulations contain bureaucratic rules of how to create formally correct documents.¹³ Additional corporate expenses are necessary to implement governmental document requirements.¹⁴ In Germany, the annual process costs of governmental procurement amount to 19 billion EUR in total or 7,870 EUR for each awarding procedure (costs belong to governmental administration with 8.8 billion and 10.2 billion to contracting enterprises).¹⁵

As example in daily business of Mercedes Benz Consult Graz, formal rules determine a pricing scheme that restricts pricing possibilities especially in valuing custom-built products. Prices for new products and services calculated according to price law are limited in profit margins. Price regulations clearly define what kind of price type has to be applied when pricing goods. If, for example, goods are sold at market prices, the marketability has to be proven. If the market is limited or does not exist at all, cost prices are applied. Cost prices allow authorities to audit the contractors' price calculation in order to prevent excessive demands. As for cost prices, surcharges on costs are limited and set by law. The disclosure of price calculations is legitimized by law and the price auditor has permission to view and copy company-internal documents.¹⁶

Taking into account the legal environment, economic pricing for new developed goods and services is an ambitious task.

The majority of literature on pricing in governmental business deals with relevant German legislation. Efforts are made to explain the intentions of German price regulations, how the governmental procurement process is set up and how tendering processes work.¹⁷

¹³ Cf. MICHAELIS, H., et al (2011), pp. 6-10

¹⁴ Cf. EBISCH, H., et al (2010), p. 43

¹⁵ Cf. BMWI b), (2008), p. 8

¹⁶ Cf. LSP (1953), p. 20; Cf. NOELLE, T.; ROGMANS, J. (2002), p. 214; Cf. VO PR 30/53 (1953), §1,4,5

¹⁷ Cf. AX, T., et al (2010), p. 5

Furthermore, the literature points out that public procurement procedures limit the scope of corporate pricing possibilities. It also reviews the legitimacy of regulating corporate pricing methods.¹⁸

Practical guidelines try to give an overview of how to participate in governmental tenders and how to object to the decision of a competition.¹⁹

Governmental guidelines act as explanation and interpretation of the legal basis and leave scope to the officers' execution.²⁰

The German legal situation offers variations of pricing goods and services. But so far, there is no guideline available for corporate pricing strategies when new products are developed or adapted. A definition of price types and their variations in a practical approach is also missing. Especially in the context of new designed equipment there is no advice on how industrial development can be considered when pricing goods. The non-awareness of regulations and pricing scope can have disastrous financial consequences for contractors.²¹

1.2 Objectives

Mercedes Benz Consult Graz aims at the correct interpretation and implementation of German legal regulations because it is important for the contractor's economical operation and the government's public confidence. In the end, both parties must be satisfied with the quality of goods and services delivered and be fully paid for that. Otherwise, an economical loss of funds or an unsatisfied customer burdens the corporate business in future.

Mercedes Benz Consult Graz has shown that if legal regulations are understood and completely implemented in business processes, it is no problem to successfully pass a price audit without any penalty payment.

This thesis aims to elaborate corporate pricing strategies in the context of governmental business. Pricing strategies cover a corporate guideline that gives an overview of what is necessary and what is possible or may happen when calculating prices in relation with governmental business. So far, there

¹⁸ Cf. MICHAELIS, H., et al (2011), p. 2

¹⁹ Cf. BIRGEL, K. (1994), p. 14

²⁰ Cf. EBISCH, H., et al (2010), pp. 23-28

²¹ Cf. MICHAELIS, H., et al (2011), p. 21

is no practical guideline available to relatively compare the economic results of pricing scenarios.

It is an objective to find the most economic possibility for pricing innovative equipment. In the automotive industry, e.g., the focus is on adapting existing products by implementation of specific customer demands. Innovations are integrated step by step and comprehensive innovations mainly result from fulfilling technical regulations.²² In this case, the handling of development costs can be considered in pricing scenarios.

Not every price affected by German legislation can be treated in this report. This study deals with prices concerning Regulation PR No. 30/53 on Pricing in Public Contracts (VO PR 30/53) and Guidelines for Pricing on the Basis of Cost (Leitsätze für die Preisermittlung auf Grund von Selbstkosten - LSP). Both can be found in Annex R and Annex S of this report.

Furthermore, it is interesting how a price audit is conducted and what consequences can result from it. The knowledge of how to behave and participate in price audits shall result in an optimized business process. Preparing activities for price audits shall be reduced to a minimum. The financial planning reliability shall be increased. This goals can be achieved by ensuring that market prices are applied as often as possible.²³

1.3 Approach

The second chapter of this thesis starts with a short explanation of essential terms and underlying legal regulations. As a next step, every element of the German governmental procurement system will be described. The frame of European procurement in a business to government relationship and procurement systems of other institutions should give an overview about different procurement systems. As regards the German procurement system, two approaches of explaining price forms close the second chapter.

In the third chapter, the German legal regulations are examined and interpreted. The focus lies on the practical implementation possibilities of price law in the view of both contracting parties of a governmental related business. It is not the intention of this thesis to review and comment involved legislation in detail but to present its practical consequences when dealing

²² Cf. MÖHRLE, G. (2005), p. 73

²³ Cf. MICHAELIS, H., et al (2011), p. 9

with authorities. The main participating entities are the government as customer, common enterprises as contractors and governmental price auditing offices as supporters.

When the procurement process and its statutory basis is clear, a short introduction to basic terms of a pricing process compliant with price law is given in the second part of chapter three. The next step is to explain the statutory price auditing process and the related pricing process. It is important to know who has the permission to carry out price audits and what are the auditing rights of the different departments involved. The sequence of price auditing and possible results are shown. As a basis, the permitted price forms and their modifications are presented in detail. Answers will be given to what happens if price law is ignored. Demonstrated consequences cannot be safely predicted but generally estimated.

The fourth chapter describes process interactions that lead to an optimized corporate pricing process under consideration of compliance with governmental procurement and price auditing procedures.

The framework of business to government relationships (B2G) in connection with German price auditing can be given as displayed in Figure 1. Three involved parties interact in a governmental relationship. The customer wants to make sure that he pays a reasonable price for his purchased products to the contractor. Therefore, the governmental customer consults a governmental auditing department to audit the prices offered by the contractor. According to legal regulations, contractors' price calculations can be reviewed by the price auditor and in some exceptional cases by the customer.

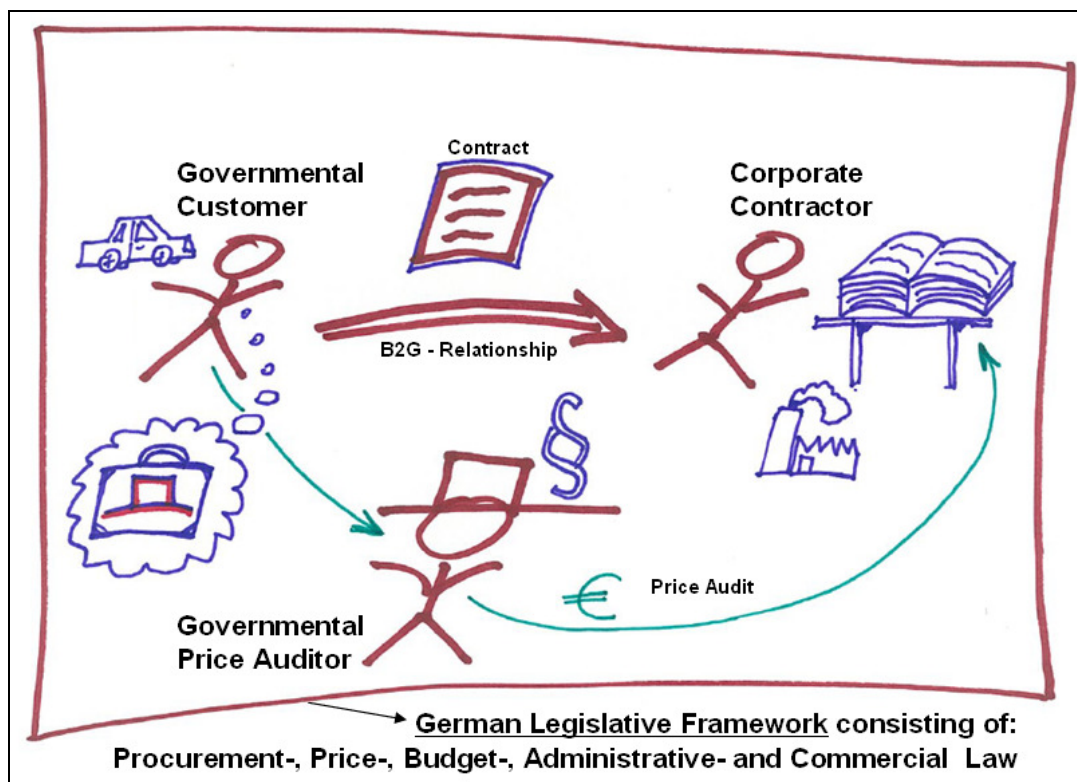


Figure 1: Overview of B2G Relationships in Germany (own illustration)

When every involved element of business to government relationships is described and clear to the reader, the practical part starts in chapter five of this thesis. Process interactions between elements and modules lead to the elaboration of different corporate pricing strategies. Subsequently, the testing of theoretical pricing strategies is carried out by developing two practical pricing scenarios. Special attention is paid to the economic effects of expenses for generating new, specific equipment.

The scenario method and simulation is applicable because of the complexity of this problem. The character of scenario method is quantitative and qualitative as well as fulfilling a normative and explorative purpose.²⁴ In order to develop a simulation procedure, the author compared common automotive industry tools for technology valuation such as scenario, portfolio, forecast and simulation method. The comparison showed that, the scenario method was the only method, that can take into account all aspects of complex customer projects. Especially the B2G interference factor 'price auditing' can

²⁴ Cf. MÖHRLE, M. (2005), p. 88

be considered and simulated in extreme scenarios.²⁵ The scenario method is the best choice to display and solve the question of how to compare different pricing possibilities with focus on price auditing of innovative equipment.

As a forecasting technique, the scenario method describes the path from an actual to a future situation step by step. The line of events according to the progress of influencing parameters leads to a projection of future situations. Future situations do not describe the projection of a single situation. They describe the range of future possibilities.²⁶

Important for corporate enterprises are the consequences drawn for their strategic business planning. The use of global scenarios and corporate specific scenarios are common. Corporate specific scenarios are well adapted to the enterprises' needs. They include the individual corporate initial situation and environmental influence factors under the enterprises point of view. An advantage is that all external factors in relation with the corporation can be considered in scenarios. That is the way of how to develop strategic decisions for a corporate future.²⁷

The scenario method in this thesis is used as a planning tool to display the future development of two absolutely different scenarios. The result of price auditing describes a range of expected values generable for corporate goods and services. The scenarios simulate and compare the relative economic results of corporate offers. The special feature of that scenario comparison is the differently priced but identical delivery content. Depending on the result, a strategic corporate decision can be taken whether scenario 1 or 2 is chosen for project realization.²⁸

An overview of the existing variety of price forms offers a matrix of price module combination possibilities for the price calculating employee. Presenting every choice of price calculating is not the intention of this thesis. Rather, the chosen methodology shows how to proceed in a corporate pricing process and how the compared results may differ in relative economic issues. Knowledge of how to proceed in calculating product prices, according to legal situation, represents a tool to set up different product prices by the use of price type modules.

²⁵ Cf. EGGERS, B.; EICKHOFF, M. (1996), pp. 39-40

²⁶ Cf. SPITZER, J. (2006), p. 3.1-11

²⁷ Cf. REIBNITZ, U. (1992), pp. 14-18; Cf. STROLZ, R. (2001), pp. 8-10

²⁸ Cf. WEBER, J., et al (2005), p. 13

The content of the practical part of this thesis is shown in Figure 2. This figure shows price affecting events over a time axis. The timeline is represented by the corporate business process which is explained in detail in chapter 5.1. The comparison of two pricing scenarios is conducted, which demonstrates how to create variable product prices according to price list prices or official prices calculated by means of a corporate calculating scheme. Both scenario delivery contents are technically identical, priced in a different manner but still compliant with price law. Which pricing scenario is the most economic one is practically tested by an audit simulation. The offered prices can be cut down or confirmed by the price auditor and show the amount of money paid in the end.

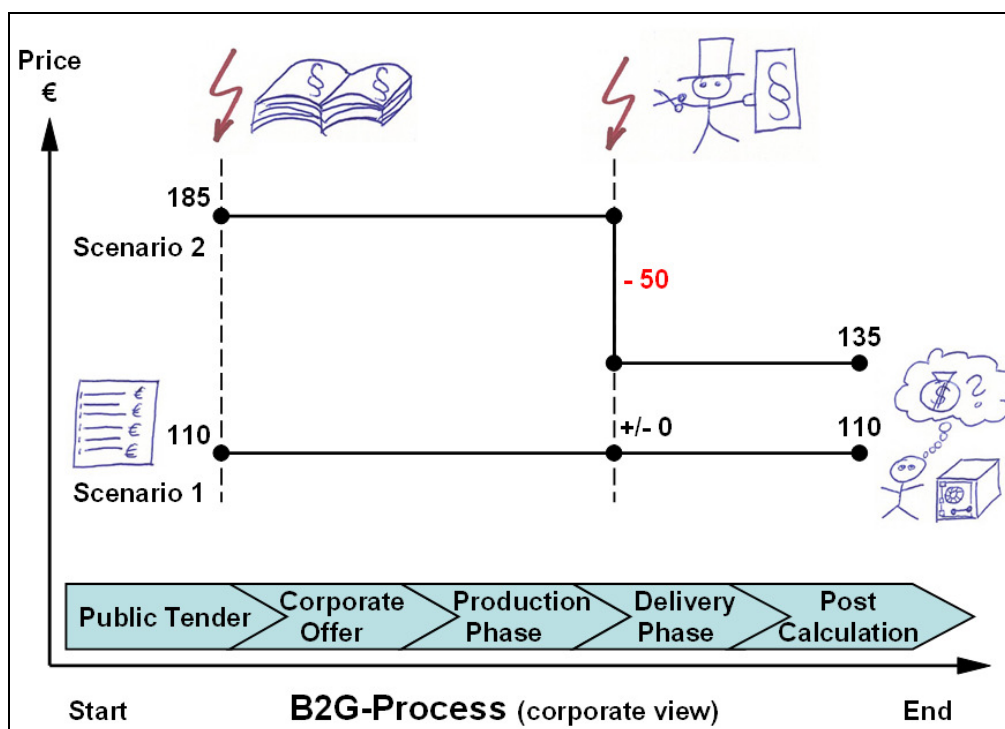


Figure 2: Business Process with Interference Factors (own illustration)

In detail, the testing is conducted by a product price calculation of an automotive industry project with the following simulation of a price audit. Results are shown and analyzed for economical relevance of product categories and administrative efforts. In the end, a summary of the developed and tested pricing strategies is given, referring to further specific topics that were not subject of this thesis.

The basic structure of this thesis is illustrated in Figure 3. The theoretical part of this thesis includes governmental procurement, price auditing and basics of corporate pricing. The practical part elaborates pricing strategies and pricing scenarios and a price audit simulation of a fictive customer project.

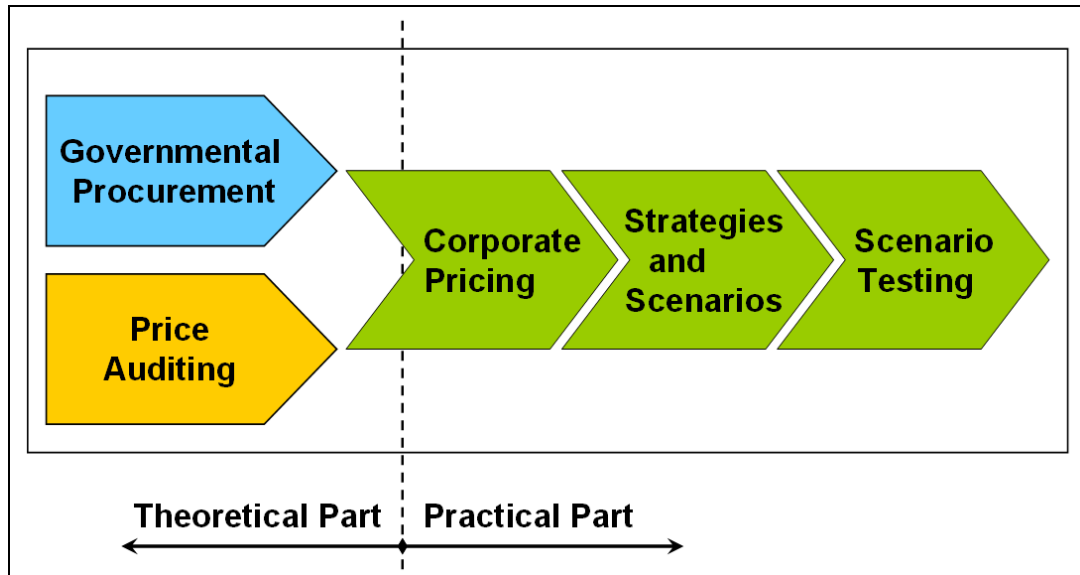


Figure 3: Diploma Thesis Structure - Overview (own illustration)

2 Procuring Situation in Business to Government Markets

Important terms of governmental procurement are described in the beginning of this chapter. Details follow about the German procurement system, especially by the example of the German Armed Forces (Bundeswehr).

The procurement systems of other nations and institutions are based on their own regulations and specifications. Differences between other interesting markets and the German market will be lined out. The reader gets an impression of the complexity of governmental procurement systems.

As a main issue of this thesis, the focus is on corporate pricing compliant to German price law. This chapter ends with an introduction of pricing practices in relation with governmental procurement. An overview about pricing basics, especially price forms and their meaning, is displayed.

2.1 Basic Terms of Governmental Related Procurement

For the understanding of this thesis and to draw conclusions from all given process interactions and influences, it is necessary to understand common terms of procurement. In the beginning, only main terms are explained. Special terms will be explained when they occur in the relevant chapter.

2.1.1 Demand

The demand of governmental authorities results from their responsibility for society. It is necessary to spend a part of governmental budget on buying goods and services that cannot be produced or operated by officials.²⁹ As example, the German Armed Forces (Bundeswehr) are tasked by law with the duty of providing national defence. In order to be able to accomplish their mission, the armed forces must be provided with necessary equipment.³⁰

²⁹ Cf. ENGEL, C. (1983), p. 5

³⁰ Cf. BWB b), (2010), p. 3

2.1.2 Market

The term '*market*' is not defined in German legislation. It is only mentioned what prices for merchantable goods and services stand for. The problem resulting from this fact is that it is not clear whether the term market only refers to the German market or whether it also includes foreign markets such as the European Union. In the context of this thesis it is important to clarify whether an existing competition is a prerequisite to set a market price. As example, competition for a specific product does not exist in Germany but may exist in another European market. The answer to this problem is complex. Hertel came to the conclusion that the European market is applicable for determining market prices compliant to German price law.³¹

2.1.3 Customer

Public contracts can be awarded by the Federal Republic of Germany, German States, the municipalities or other corporations under public law.³² The definition of who is responsible for awarding public contracts is not of practical relevance. Rather, it is important to know the extended range of contract partners with price auditing relevance that comes into question.³³ For example, Daimler accepted a number of contracting entities according to statutory provisions. They are listed below and are definitely customers with price auditing relevance. The following governmental-related customers are approved by Daimler AG:³⁴

- statutory corporations (federal government, federal states, communities and townships)
- other regulations by public law corporations, institutions and foundations (example: social security, cooperatives, denomination and universities)
- enterprises under commercial law which contract in the name of a public authority

³¹ Cf. BIRGEL, K. (1994), pp.100-101; Cf. Hertel, K.A. (1998), p. 30

³² Cf. VO PR 30/53 (1953), §2.1

³³ Cf. ENGEL, C. (1983), pp. 9-10

³⁴ Cf. DAG a), (2010), p. 5

- foreign forces of the North Atlantic Treaty Organization (NATO) and its according civil organizations based in Germany³⁵
- Military forces of the United States of America (regarding acquisitions in Germany)
- national aid agencies
- juristic persons governed by private law that handle tasks for the public benefit (e.g.: waste management service providers)

Governmental departments hold auditing rights for contractors and in special cases for sub-contractors.³⁶ Because of this high practical relevance, the exact relationship is shown in Figure 4.

2.1.4 Contractor

German legislation shows no definition or restriction of contracting corporate enterprises.³⁷ Basically, it is not planned to exclude bidders from tendering procedures. But in the event of being guilty of serious misconduct such as bribery or illegal employment on behalf of unreliable companies, these companies can be excluded from the placing of public orders.³⁸ It was planned but failed by the German government to set up a list of non-qualified enterprises in order to prevent contracting them again.³⁹

A screening of potential suppliers and sub-suppliers can be conducted independently before awarding a contract. Contractors can engage sub-suppliers if their capacities or know-how is limited. Screening is a specific procedure set by the customer to verify the contractor's and sub-supplier's qualification.⁴⁰

The governmental related customer has the right to draw support from the responsible auditing authority to assist in price auditing the contractor. For a better understanding of the relationships between customer, contractor and

³⁵ Cf. VO PR 30/53 (1953), §2.3

³⁶ Cf. DAG a), (2010), p. 10

³⁷ Cf. ENGEL, C. (1983), p. 12

³⁸ Cf. VOL/A (2009), §6.5.

³⁹ Cf. BMWI e), (2012), <http://www.bmwi.de>

⁴⁰ Cf. GWB (2002), §97 4a; Cf. BMWI e), (2012), <http://www.bmwi.de>

sub-contractor, they are shown in Figure 4. The auditing authority has the permission to check the contractor and any subcontractor as well. This means, sub-contractors can be responsible for evidence in case a price audit is conducted at the main contractor.⁴¹ The contractor must submit an official statement of every engaged sub-contractor to the customer (Annex P).⁴² The suppliers deliver single product parts or raw material. Including them into price auditing activities is practically not relevant.

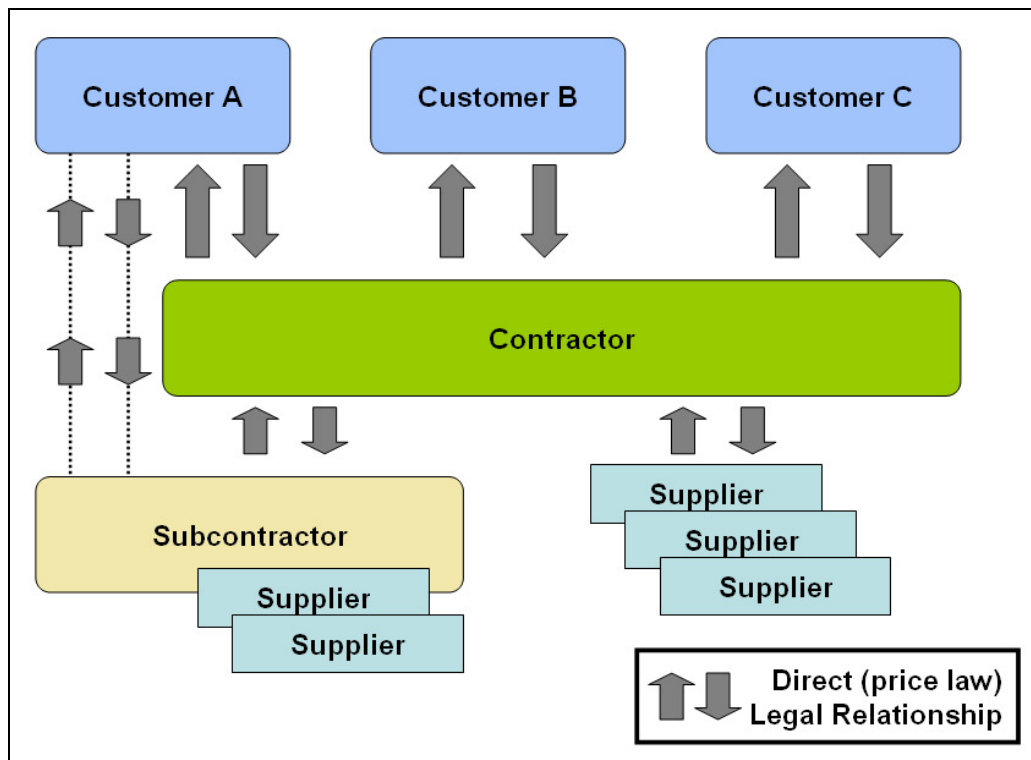


Figure 4: Relationship between Customer, Contractor and Subcontractor⁴³

The participants in B2G relationships are referred to as 'contractor', 'bidder' and 'applicant'. The difference is their relationship level to the governmental related customer.⁴⁴

As example, the applicant is interested in tender details and requests information. In this case, he is in contact with the customer but has not entered an obligation. A bidder has already submitted a legal binding offer in

⁴¹ Cf. ENGEL, C. (1983), p. 14; Cf. MÜLLER, R. (1993), p. 26

⁴² Cf. MICHAELIS, H., et al (2011), §2 pp. 2-8

⁴³ Cf. DAG a), (2010), p. 10

⁴⁴ Cf. ENGEL, C. (1983), p. 14

a tendering procedure (open or restricted tender).⁴⁵ In the end of a tendering or direct awarding procedure, the contractor has already awarded the contract and has the obligation to deliver the offered goods and services.

2.1.5 Orders of Goods and Services

In a trade relationship, there must be priced goods and services.⁴⁶ Business to government covers goods and services that are supplied under public contracts.⁴⁷ There is an unlimited number of potential contract items because of many different governmental customers that are in need of a huge variety of goods and services. Some order items regarding the German Military Services are mentioned as an example, but they do not represent a comprehensive order-item-list. Contracts are placed for research and development, maintenance works and supply goods (motor vehicles, air force and naval equipment, weapons, ammunition, provisions, radio equipment).⁴⁸ This thesis focuses on contracts about physically deliverable items. Other contractual items can be services, patents, transports, insurance, electricity, finance, vehicles, aircraft, ships, weapons and ammunition, food, clothing, medical equipment, information technology equipment, command and control systems and many more.

2.2 German Governmental Procurement System

Governmental business has a high public attention regarding budgets and investments of financial resources. These investments occur under observance of specific rules and standards according to public procurement law and price law. In Germany, the Ministry of Economy and Technology (BMWi) is responsible for the duly compliance of those basic principles and regulations.⁴⁹

⁴⁵ Cf. EBISCH, H., et al (2010), pp. 64-65

⁴⁶ Cf. GWB (2002), §99 1; Cf. EBISCH, H., et al (2010), p. 37

⁴⁷ Cf. VO PR 30/53 (1953), §1/1

⁴⁸ Cf. BWB e), (2011), <http://www.bwb.org>

⁴⁹ Cf. BMWI c), (2012), <http://www.bmwi.de>

2.2.1 Effects of European Directives on Public Procurement

The Government Procurement Agreement (GPA) of the World Trade Organization (WTO) has been implemented in European Union (EU) directives. The EU awarding regulations are implemented in German law by different regulations (not to be mentioned here in detail).⁵⁰ In 2004, the EU introduced regulations for public procurement of goods and services. Because of national budgetary problems it is a chance to save money if EU-wide competitive procurement is executed.⁵¹

Basic directives and 'remedies' directives form the European procurement law. Basic directives regulate material procurement and remedies directives regulate legal protection for bidders participating in governmental procurement.⁵²

The main task of European directives is to secure that European bidders are treated as residents and are legally protected by member states of the EU when participating in procurement procedures.⁵³ Participating countries are required to ensure a reasonable announcement of tenders, discrimination free description of contract objects, same access for every bidder regardless of their nationality, mutual acceptance of certificates and evidences, setting of reasonable deadlines, transparency and objective approach.⁵⁴ The governmental decision for awarding a contract can be based on the criteria 'lowest price' or 'most economic offer'. This fact is of corporate relevance because it offers governmental customers an extensive scope when awarding a contract.⁵⁵

The conclusion is that the influence of European directives on national procurement systems and processes is lesser important in compare to national directives. The governmental customer still owns discretionary powers if he wants to award a contract to a specific bidder.

⁵⁰ Cf. BWB b), (2010), p. 23

⁵¹ Cf. AX, T., et al (2010), p. 75

⁵² Cf. PÜNDER, H.; SCHELLENBERG, M. (2011), p. 26

⁵³ Cf. PÜNDER, H.; SCHELLENBERG, M. (2011), p. 27

⁵⁴ Cf. AX, T. et al (2010), pp. 78-81

⁵⁵ Cf. PÜNDER, H.; SCHELLENBERG, M. (2011), pp. 128-129

2.2.2 Procurement Process

The immediate satisfaction of military forces demands is ensured by the civil services of the federal defence administration. The German Armed Forces have introduced a central procurement process (Figure 5) to increase the capabilities of the Bundeswehr.⁵⁶ The use of Customer Product Management (CPM) aims at tightening all administration activities. CPM is a regulation for a centralized assessment and fulfillment of demands within Federal Armed Forces (FAF). By implementing this procedure, FAF's demands are served in an economic way and within a shorter procurement time period.⁵⁷

"Central procurement means, the entire demand of the German armed services is jointly determined and procured. This creates a wide competitive environment. Large order quantities for combined demands result in a reduction of unit prices. The Bundeswehr has fielded more than 1.8 million supply items."⁵⁸

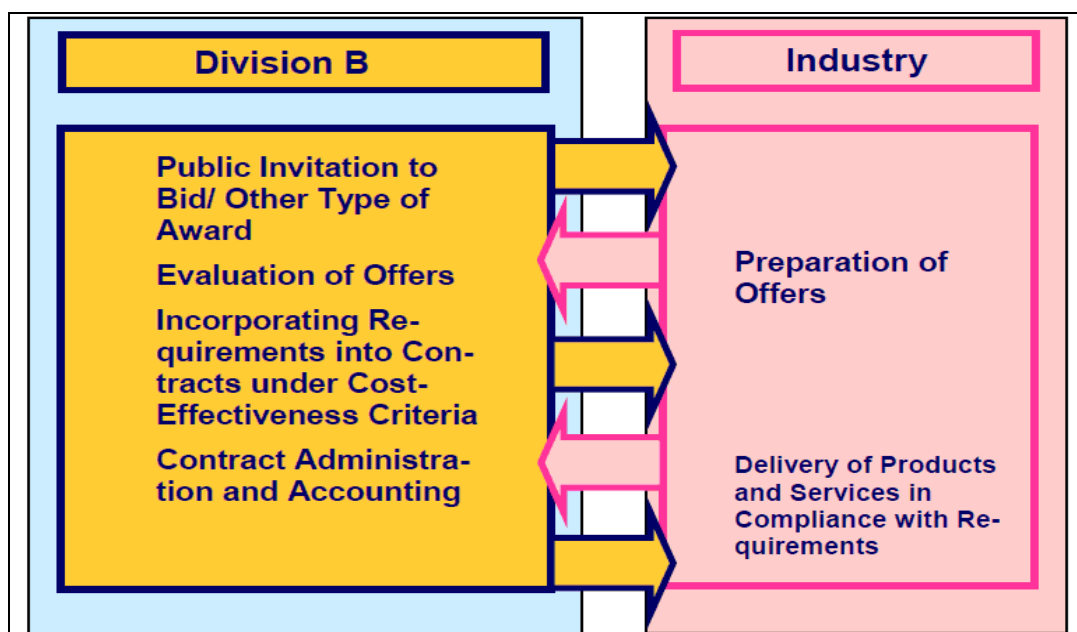


Figure 5: Bundeswehr Procurement Process⁵⁹

⁵⁶ Cf. EHDP e), (2005), p. 8

⁵⁷ Cf. BWB c), (2011), <http://www.bwb.org>

⁵⁸ BWB b), (2010), p. 16

⁵⁹ Cf. BWB b), (2010), p. 17

2.2.3 Structure of German Public Procurement Law

Public procurement law includes all rules and instructions for the public sector of how to proceed a purchasing process for goods and services. Common principles for the award of public contracts are a transparent competitive procurement process with an equal treatment of all participants. Contracts are awarded to the bidder with the most economic offer. Medium-sized business should be promoted.⁶⁰

As example, the standard ‘Regulation on the award of public contracts’ manages thresholds and further applicable exceptions.⁶¹ Details about thresholds are mentioned in chapter 2.2.4.

The regulations of German public procurement are structured as shown in Figure 6. In this thesis, only important elements of relevant law passages are mentioned and explained. The focus lies on corporate pricing practices.

Awarding Law Structure	
<u>European Contract Awarding Regulations</u>	<u>National Contract Awarding Regulations</u>
<p>➤ Legal Basis</p> <ul style="list-style-type: none"> – EC Treaty – EC Directives – GWB Part 4 – Regulation on the Award of Public Contracts 	<p>➤ Legal Basis</p> <ul style="list-style-type: none"> – Budget Law (§ 30 HGrG, Budget Principles Act) – Federal Budget Code (§ 55 BHO)
<p>➤ Awarding Procedures</p> <ul style="list-style-type: none"> – VOL/A Section 2 – VOF 	<p>➤ Awarding Procedures</p> <ul style="list-style-type: none"> – VOL/A Section 1
<p>➤ Types of Award</p> <ul style="list-style-type: none"> – Open procedure – Restricted procedure – Competitive dialogue 	<p>➤ Types of Award</p> <ul style="list-style-type: none"> – Public competitive bidding – Restricted bidding – Negotiated contracting

Figure 6: Structure of German Public Procurement Law⁶²

⁶⁰ Cf. GWB (2002), §97; Cf. PÜNDER, H.; SCHELLENBERG, M. (2011), p. 35

⁶¹ Cf. VgV (2001), §1

The following awarding regulations and directives of the Federal Government are taken into account:⁶³

- Law against restraint of competition (Gesetz gegen Wettbewerbsbeschränkungen - GWB)
- Regulation on the award of public contracts (Vergabeverordnung - VgV)
- Conditions concerning Contracts for Supplies and Services Part A (Vergabe- und Vertragsordnung für Leistungen - VOL/A)
- Conditions Concerning Contracts for Freelance Supplies and Services (Verdingungsordnung für freiberufliche Leistungen - VOF)

Legal basis of governmental procurement in Germany is §6 of the German Budgetary Principles Act (HGrG). It regulates the principles of efficiency and economy when budgeting. The Federal Budget Code (Bundeshaushaltsordnung - BHO) stipulates by §55.1 that governmental contracts must be regularly procured by tendering procedure and only exceptionally by other procurement methods. When awarding a contract, uniform guidelines must be kept. Guidelines are separated in guidelines for goods and services (VOL) and building contracts (VOB). Both guidelines are structured in part A which contains general provisions for the procurement procedure and part B which is about the administration of contracted items. When awarding a contract provisions according to VO PR 30/53 must be respected as well as their appendix "Guidelines for Pricing on the Basis of Cost (LSP)".⁶⁴ Further detailed explanations can be found in specialized literature (see literature list).

2.2.4 Awarding Procedures

The objective of policies and procedures is to secure economic conditions based on competition. Additionally, it should be avoided that governmental customers abuse their market strength because of their capacious market

⁶² Cf. BWB b), (2010), p. 22

⁶³ Cf. BWB e), (2011), <http://www.bwb.org>

⁶⁴ Cf. MICHAELIS, H., et al (2011), p. 10; Cf. SULIMMA, M. (1991), p. 25

share regarding specific markets. The aim of EU-wide opening of the public procurement market ensures the application of awarding regulations, a reasonable and non-discriminatory treatment and a transparent awarding process. This claim is valid for every potential European bidder and competitor for public contracts .⁶⁵

As described in detail in the next section, there are three different kinds of awarding procedures. Their relation is shown in Figure 7.

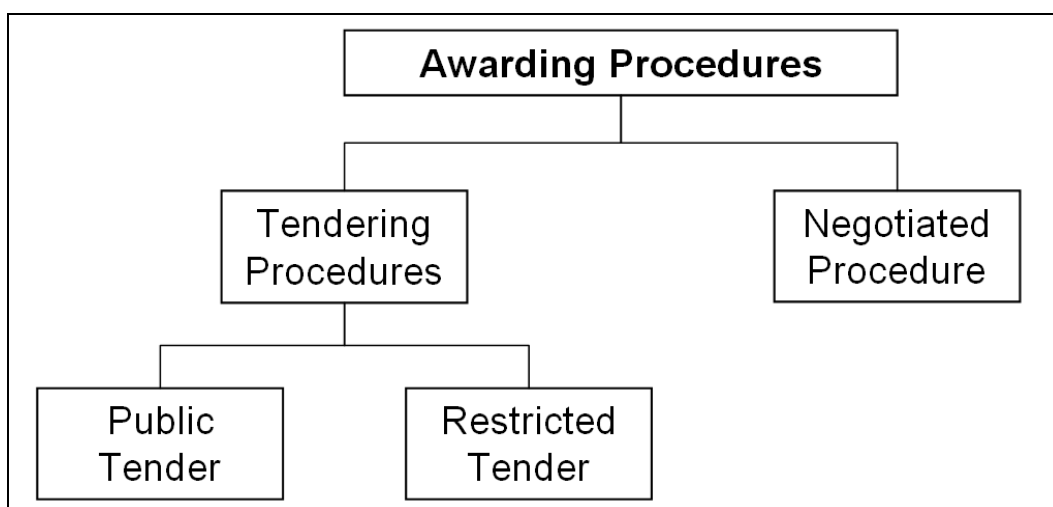


Figure 7: German Awarding Procedures⁶⁶

Public Competitive Bidding or Open Procedure

A public tender invites an unlimited number of companies to submit a proposal or to lodge feedback.⁶⁷ This procurement procedure is to be favoured amongst all available awarding procedures. Broad competition according to a strictly formalized process is ensured. Every company can request the bid specifications and is invited to submit an offer. Offers are evaluated concerning the bidders' reliability, efficiency and expertise. The most economic offer in compliance with specified requirements is then determined.⁶⁸

⁶⁵ Cf. BMWI d), (2012), <http://www.bmwi.de>; Cf. BWB b), (2010), p. 22

⁶⁶ Cf. DÄUMLER, K.; GRABE, J. (1984), p. 12

⁶⁷ Cf. VOL/A (2009), §3 Nr.1; Cf. SULIMMA, M. (1991), p. 28; Cf. BMWI d), (2012), <http://www.bmwi.de>

⁶⁸ Cf. BWB b), (2010), p. 24

Restricted Tender

The restricted tender allows a limited number of selected companies to submit their proposal.⁶⁹ Governmental customers can set up a pre-qualification system to check the enterprises' suitability. This means designated suppliers have to establish their competence and quality beforehand.⁷⁰

Single Tender Action or Negotiated Procedure

The negotiated procedure permits negotiations with corporate enterprises. If urgent needs of equipment occur in the line of duty, the only chance to serve the demand in time is to order goods from prequalified suppliers and negotiate offered prices without public advertised bidding.⁷¹

"An Urgent Operational Requirement (UOR) arises from the existence of a capability gap which is directly related to a peacetime Bundeswehr operation abroad and which must urgently be closed to ensure mission success, provided that the Bundeswehr has not been able to close this gap yet but it could be closed by means of a quick and practical technical solution."⁷²

As for restricted tenders and negotiated procedures, at least three applicants should be invited by authorities to submit an offer (an exemplary offer invitation can be found in Annex L).⁷³

2.2.5 Threshold Value of Public Tender Announcements

Public customers have to announce public invitations first because a tendering procedure causes the biggest competition. Only certain qualifications approve the use of other tendering procedures. Public tenders must be announced in various German communication media and EU-wide if the contract value exceeds EU thresholds. The threshold value is set for goods and services at 125,000 EUR for the federal government, 193,000 EUR regarding all other public authorities and 4,845,000 EUR for building

⁶⁹ Cf. BMWI d), (2012), <http://www.bmwi.de>

⁷⁰ Cf. PÜNDER, H.; SCHELLENBERG, M. (2011), p. 35

⁷¹ Cf. BMWI d), (2011), <http://www.bmwi.de>

⁷² BWB d), (2004), p. 41

⁷³ Cf. PÜNDER, H.; SCHELLENBERG, M. (2011), p. 996

contracts. Exact descriptions of how governmental customers have to behave when awarding contracts can be found in the regulations VOL/A, VOB/A and VOF.⁷⁴

In this context, enterprises complain it is too hard to find and sort out relevant governmental order announcements. Placed within certain print medias and a description under use of different wording it is difficult for companies to identify them as suitable.⁷⁵

2.2.6 Contract Types of the German Armed Forces as a Customer

The different kinds of contracts are awarded mainly to industry by the Federal Defence Administration in compliance with the awarding regulations and directives of the Federal Government.⁷⁶

Study and Research Contracts

If capability gaps are identified and solutions investigated, research contracts may be awarded to industry.⁷⁷

Development Contracts

If a product with certain abilities is not yet available on the market, a development contract may be awarded to minimize implementation risks of the new equipment.⁷⁸

"Development activities comprise measures such as research and studies/analyses, development of new products, including the manufacture of demonstrators/models and the pertinent tests, proof of producibility, as well as advanced production engineering and industrialization. Any measures aiming at preparation for series production, initial production, production as such as well as technical-logistic support are not referred to as development activities."⁷⁹

⁷⁴ Cf. AX, T., et al (2010), p. 72; Cf. BMWI d), (2012), <http://www.bmwi.de>; Cf. BIRGEL, K. (1994), p. 28

⁷⁵ Cf. BMWI b), (2008), p. 57

⁷⁶ Cf. BWB b), (2010), p. 3

⁷⁷ Cf. BWB b), (2010), p. 5

⁷⁸ Cf. BWB b), (2010), p. 5

⁷⁹ BWB d), (2004), p. 35

Purchasing Contracts

Mainly commercial products and products that have completed development and can be manufactured are affected by this kind of contract.⁸⁰

2.3 Procurement Systems of Other Institutions

Governmental procurement is traditionally characterized by national regulations and national competition. Structural changes were initiated by the European Union's public procurement law to force international competition. Conflicts may occur about the price law and procurement systems of different countries.⁸¹

Sulimma came to the conclusion that a common European market for B2G is prevented by the price law of different countries. The cost price basis is different because of different accounting standards. There are no considerations in the EU legislation of how to solve these problems caused by the individual price laws. To form a common European market for B2G, it is a requirement to first harmonize national cost accounting regulations.⁸²

The focus of this thesis lies on defence procurement according to German price law. In general, public defence contracts are complex and information is confidential. For this reasons, an overview of nations and institutional procurement peculiarities is given. Details about price law characteristics are mentioned if relevant.

2.3.1 France

Armament General Delegation (AGD) is the responsible authority for determining and acquiring defence equipment. The main objective is to reduce cost and time of the acquisition. The procurement policy is based on three main principles.⁸³

The first principle is using the greatest possible competition. It is the most powerful factor enabling cost decrease. Competition is extended to a European supplier basis, also including civil industries. A prime customer in a

⁸⁰ Cf. BWB d), (2004), p. 35

⁸¹ Cf. MÜLLER, R. (1993), pp. 169-175

⁸² Cf. SULIMMA, M. (1991), p. 7

⁸³ Cf. EHDP a), (2003), p. 1

monopolistic strong position has to organize an open and fair tendering competition. The second principle is to make contractors globally in charge of global results. Global development partnerships by the means of incentives are spurring the contractor to innovate optimized managing processes that are focusing on cost and time effectiveness. The third principle is the gathering of orders as integral parts of global order contracts.⁸⁴

The basic principles of price law in France are similar to Germany. There are auditing possibilities for prices and costs. Prices are mainly checked in terms of competition and costs in terms of restricted competition. But the price law of France determines price forms according to different criteria than German price law does. These criteria include package prices or unit prices, or price modification possibilities during a running contract. French price forms can be classified according to German price forms on market and cost price basis. They can be audited in France before contract awarding in terms of cost or price no matter if competition exists or not. When the auditing authority concludes that the price is not correct, the bidder can be requested to submit a statement or the tendering procedure can be repeated or a complaint about price-rigging is submitted. The main difference in comparison to German price law is that the German auditing authority can cut the price to a legal amount without the possibility for the bidder to withdraw their offer. In France, this procedure is not applicable.⁸⁵

2.3.2 Turkey

In Turkey, there are two organizations tasked with the procurement of material required by the Turkish Armed Forces (TAF). They are both organizationally located at the Turkish Ministry of National Defence. They are called the Deputy Undersecretary related with procurement and infrastructure and the Defence Industry Undersecretariat (DIU). DIU is responsible for procuring long term international and national defence material. The main task is to reorganize the existing Turkish industry by own funds supplied by taxes on alcoholic and tobacco products, chance games, lottery and some more. Since 1986, about 80% of the budget was spent on domestic production purposes. Another aims are getting better equipment cheaper and

⁸⁴ Cf. EHDP a), (2003), pp. 4-5

⁸⁵ Cf. SULIMMA, M. (1991), p. 132

enhance domestic defence capability by acquiring more effective in terms of performance, cost and time. Competitiveness is also important. Furthermore, DIU includes project groups for price analysis.⁸⁶

2.3.3 Switzerland

Central procurement services of Switzerland's federal government are divided into three departments according to activity fields. Armasuisse is the federal competence center for the procurement of technologically complex systems and equipment. The main business objective is to offer cost-effective solutions to federal and external customers.⁸⁷ Applied procurement procedures are open bidding, selective bidding or negotiated procedure. Contracts are awarded to the most economic bid.⁸⁸

If competition is missing, the submitted prices can be checked by the governmental customer if the value of procured goods exceeds 1,000,000 SFR. Missing competition happens if only one bid is submitted or a contract is awarded directly. The governmental authority stipulates the right to inspect contractor's price calculations to gain transparency in pricing conditions.⁸⁹ Other tools for Swiss authorities to secure fair prices are price benchmarking of contractors referenced customers and the systematic analysis of global market situation for specific and complex goods.⁹⁰

2.3.4 Norway

The Norwegian Defence Logistics Organization/Material Investment (NDLO/MI) is responsible since 2003 for all material investment projects within the Norwegian armed forces. Norway operates in a 'best value' mode before decisions are made to contract new equipment. When contracting a set of criteria are evaluated. Exemplary criteria for contract awarding are: Price, quality, life cycle cost, contractor performance, collaborative opportunities. Norway forces competition and is encouraging competition in

⁸⁶ Cf. EHDP b), (2003), pp. 1-12

⁸⁷ Cf. SE c), (2011), www.beschaffungsstellen.admin.ch/

⁸⁸ Cf. BöB (1994), §4

⁸⁹ Cf. VöB (1995), §1.5.; Cf. SE b), (2010), p. 7

⁹⁰ Cf. SE a), (2010), p. 11

all areas, including areas even national industries are capable of meeting the requirements of the Armed Forces. If necessary, industry can be involved in an early project phase. Because of a limited market for defence equipment, approximately 80% of all investments in new equipment are procured from foreign sources. This means Norway tends to find out if equipment meeting the requirements exists on foreign markets before starting a national development program.⁹¹

2.3.5 NATO

Purpose of the North Atlantic Treaty Organization (NATO) is to safeguard the freedom and security of its members in political and military manners. NATO brings together 28 member countries from Europe and North America, consulting and cooperating in the fields of security and defence. NATO's intention is to react quickly to the most demanding and complex crises such as natural disasters, governmental repression, proliferation of weapons of mass destruction, collective defence and democratic peace. NATO has civilian and very few military forces or assets that are exclusively its own. NATO Response Force (NRF), for instance, is a highly prepared and technologically advanced multinational force of approximately 13,000 soldiers.⁹²

NATO-headquarter related procurement happens by using CFB Online, a tool for publishing and downloading document packages for calls for bids (CFBs). Since March 2010, NATO international staff CFBs are announced by posting on a webpage. Interested parties are therefore encouraged to check the webpage regularly for announcements of any new invitations to tender. Most contracts relate to the day-to-day running of NATO headquarter such as construction works, facility management, maintenance and consultancy services. Important administrative points to consider when dealing with the institution NATO are given in the General Administrative Clauses.⁹³

The General Administrative Clauses contain no special terms about price calculation or price auditing. Remarkable is a 5% holdback of the contracted

⁹¹ Cf. EHDP c), (2003), pp. 1-2

⁹² Cf. NATO b), (2011), <http://www.nato.int>

⁹³ Cf. NATO c), (2011), <http://www.nato.int>

amount. Only after final acceptance, which is one year after provisional acceptance, the contractor receives their outstanding money on request.⁹⁴ Procurement of defence equipment basically rests on national authorities sending their forces to NRF. Standardization in procurement and technical measures is voluntary for NATO Nations.⁹⁵

2.3.6 Sweden

As a civilian authority directly under the ministry of defence, the Swedish Defence Material Administration (SDMA) has the overall responsibility for procuring defence material with the Swedish Armed Forces. There is no overarching policy but goals of SDMA can be found in various official documents. Main points are to contribute through cost-effective, business-like and reliable supply of material to strengthen the operational capability of the Armed Forces.⁹⁶

2.3.7 European Union

The European Commission intends to modernize public procurement policies. A green paper covers the initiative of reforming European public procurement law to make it more efficient and effective.⁹⁷ Focusing on more efficient award procedures, decrease of bureaucracy costs and support of innovations just to mention a few important points.⁹⁸

Alternatively, in 2006 the European Defence Agency (EDA) introduced a free internet-based business platform called Electronic Bulletin Board (EBB) for European Defence Contract Opportunities. The EBB is the EDA Regime portal where European governments and industries publish their contract opportunities. The aim of European defence-related companies is to take advantage of increased transparency and cross-border opportunities in defence procurement. Under compliance with provisions of the code of conduct on defence procurement, twenty six member states subscribing this

⁹⁴ Cf. NATO a), (2011), §8.2.

⁹⁵ Cf. EHDP f), (2003), p. 1

⁹⁶ Cf. EHDP d), (2003), p. 1

⁹⁷ Cf. BMWI i), (2011), p. 1

⁹⁸ Cf. BMWI h), (2012), <http://www.bmwi.de>

platform advertise contract opportunities and help suppliers to access and identify new defence business chances.⁹⁹ The EBB market dimension is about 18 billion EUR (for the period 2006 till 2009). Defence investments reach 20% of the total defence expenditure against all member states.¹⁰⁰

2.4 Pricing in the Context of German Governmental Procurement

When pricing products in a B2G relationship, it is not enough to comply only with business economics regulations. In the context of governmental procurement it is important to take into account price law regulations.

Under legal aspects the price forms are the main issue at MBCG when governmental contracts are awarded. The determined price form of a delivery contract implies price auditing rights and possible financial consequences for the contractor. Usually the price form is determined when offers are submitted. If not, the authority subsequently requests a corporate price form declaration (Annex M).

2.4.1 Price Forms - Corporate Approach

If goods and services are offered to governmental authorities, the central focus is on prices. As example from corporate view, a car is made up of wheels, chassis, engine and other parts. The cars price consists of - simply put - a sum of prices for each product category.

The governmental view of calculating a product price is more complex. In general, a product price calculation consists of many price elements. Each price element has a value and an according price form. Usually the whole product price is classified by only one determined price form. But it can happen that the determined price form of a product is not applicable for each part of the product. This case looks like a hybrid price form.

The value of parts and the determined price form are important for corporate pricing. Product price calculations according to governmental procurement basically consist of different price modules. Price Modules can be understood as a price for a group of different delivery parts. When buying a car, for

⁹⁹ Cf. EDA b), (2008), pp. 1-2

¹⁰⁰ Cf. EDA a), (2009), p. 47

example, the vehicle price is calculated by adding prices for the basic vehicle and prices for optional equipment. Each priced position represents a price module with a related price form. Corporate cost calculations are more detailed than calculations for price offers.

In order to understand the definition of price forms, a simple example for pricing a product is given in Table 1. From the governmental point of view, the determined price form of the product can be negotiated as market price. But the product contains the innovative customer requirement 'Lettering BUNDESWEHR'. The price form of this calculation position would be a fixed cost price (customized equipment is not a merchantable good). The result is a hybrid product price, consisting of price modules such as market price and fixed cost price. In this case, it is mainly a market price based calculation. The customer pays the official market price for the market price module and a fixed cost price (based on reasonable prime costs) for the cost price module. More details about price modules follow in chapter 4.6.

The price difference between offered price and paid price results from a price audit. Customized equipment must be priced according to price law. The profit margin is limited and related to reasonable costs. In the pricing example of Table 1, the contractor set 3 EUR prime costs and was able to show evidence for only 0.01 EUR per product. Because of that fact he only gets the reasonable prime costs paid and the official market price for the chocolate bar.

Exemplary Price Calculation of a Chocolate Bar					
Corporate View		Governmental Authorities View			
	Euro		Euro	Price Form	Evidence
Chocolate	1.00	Chocolate Bar, Contains:	2.52	Market Price	Price List
Nuts	0.20	Nuts			
Aluminium Packing	0.10	Aluminium Packing			
Paper Packing	0.05	Paper Packing			
Lettering 'Bundeswehr' on Packing	3.00	Profit Margin			
Product Costs	4.35	Shipment Costs			
Profit Margin	0.50	Tax 20%			
Shipment Costs	0.25	Lettering 'Bundeswehr'	0.01	Fixed Cost	Reasonable
Tax 20%	1.02			Price	Costs
Offered Price (equals Price List)	6.12	Paid Price (Audited)	2.53		

Table 1: Price Modules in a Price Calculation (own table)

The message of this simple pricing example is: A product price calculated under corporate pricing conditions and disregarding price law regulations is cut down significantly in a price audit.

2.4.2 Price Forms - Governmental Approach

According to §3 VO PR 30/53, public contracts are subject to general and special price provisions. General price provisions combine and represent legislative price regulations that affect pricing of all kinds of goods and services. Special price provisions determine sovereign price fixing such as the price range or tariffs for notary, doctors, architects or electricity and official scales.¹⁰¹

Both provisions mentioned and price forms according to §4-7 VO PR 30/53 result in a rank order of applicable prices as shown in Figure 8. The rank order of price forms expresses what price form must be applied first when calculating a product price for a corporate offer.

The stages 1 to 4 as introduced in Figure 8 are the main price forms. Market prices must be determined whenever possible, fixed cost prices can be determined if no marketability exists (no market price can be applied). All other variants of cost price forms can be applied if special prerequisites are given. Additional variations of each price form exist and some of those sub-price forms are introduced later.

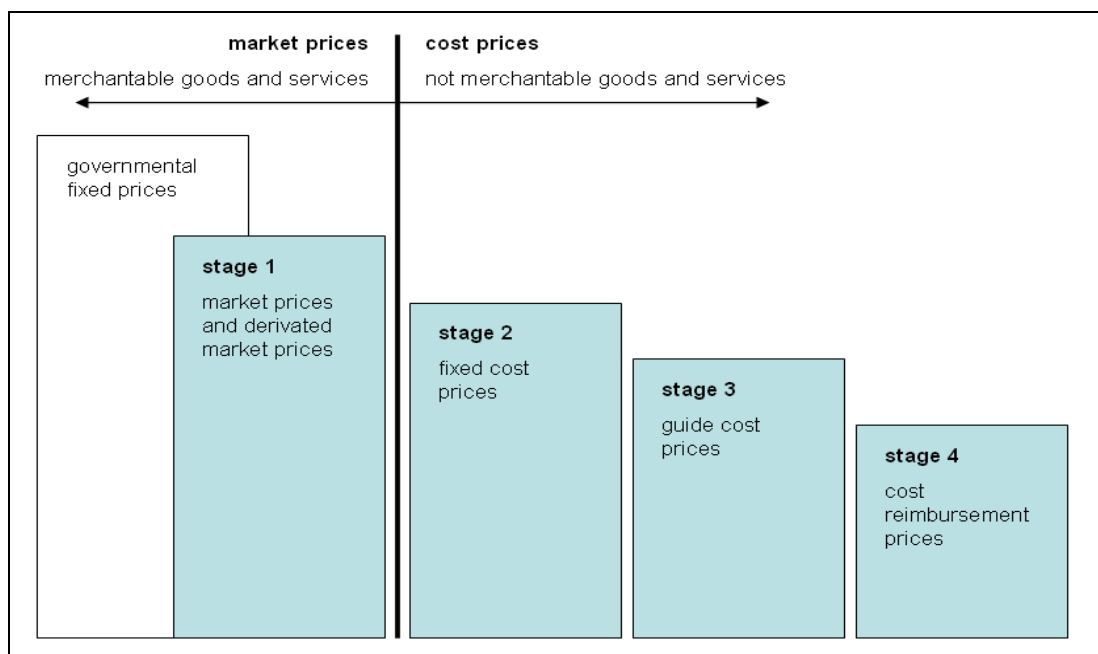


Figure 8: Price Staircase as Rank Order of Price Forms¹⁰²

¹⁰¹ Cf. EBISCH, H., et al (2010), p. 82

¹⁰² Cf. DÄUMLER, K.; GRABE J. (1984), p. 18; Cf. DAG a), (2010), p. 14

As example, a company sells an item for a certain common price, stated in a price list (an exemplary price list of Daimler AG can be found in Annex A). The product production costs are higher than the selling price. The company aims to earn at least the production costs from the deal to stay on the same economic level. In this case, it is not valid to apply stage 4 'cost reimbursement price' to get the actual costs fully paid. Market price 'stage 1' has to be applied. Only if requirements for price stage 1 till 3 are not available, stage 4 can be applied.

Furthermore, the price staircase can be interpreted according to corporate price modification possibilities. Governmental fixed prices are set under consideration of special price regulations. These prices are mandatory and cannot be modified by the contractor. Market prices and cost prices can be modified or at least influenced by corporate enterprises.

2.4.3 Market Prices and their Variants

Market Prices are not exactly defined by law. Instead they can be understood as prices for commercial goods and services obtaining the attributes: product marketability, ordinary prices and legal valid prices.¹⁰³ Cost prices according to VO PR 30/53 can only be applied if prerequisites of market prices are not available. They constitute the first price step that can be set and modified by the contractor. Market prices apply for merchantable goods and services. It is not permitted to exceed standard market prices or sell for less than current standard market prices, allowable under price law.¹⁰⁴ An overview of existing market prices is shown in Figure 9.

¹⁰³ Cf. ENGEL, C. (1983), p. 46

¹⁰⁴ Cf. VO PR 30/53 (1953), §4

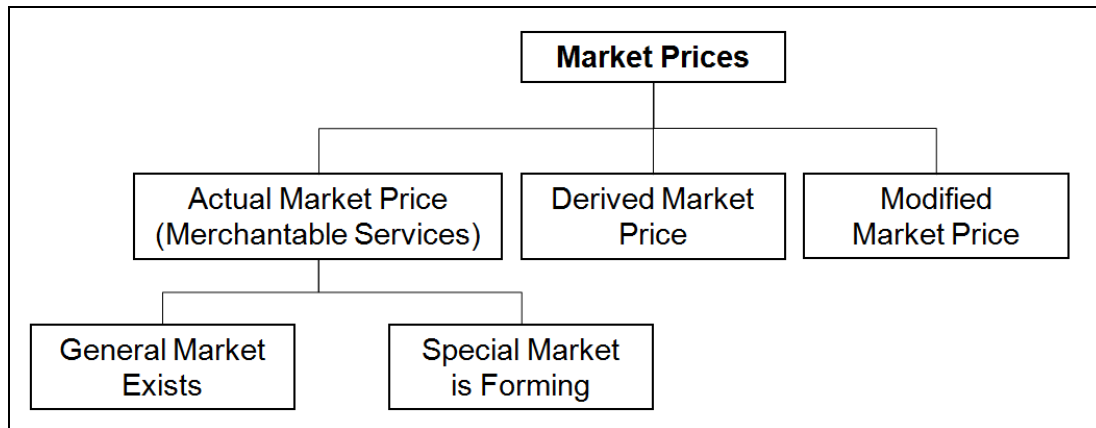


Figure 9: Variations of Market Prices in Germany¹⁰⁵

Actual Market Prices

In general, market price stands for marketable goods and services, priced in a well working competitive environment. Marketability means that a general market with already performed trades exists or is forming by a competitive tendering procedure.¹⁰⁶

Derived Market Prices

Derived market prices describe similar goods and services that are comparable with an actual market price. To generate a derived market price, value must be added or discounted to an actual market price. Prerequisite are both, products must be comparable mainly in design and the same applied pricing scheme.¹⁰⁷

Modified Market Prices

Modified market prices take into account certain order relationships such as free-issue-parts for example.¹⁰⁸

¹⁰⁵ Cf. DÄUMLER, K.; GRABE J. (1984), p. 12; Cf. BIRGEL, K. (1994), p. 101; Cf. SULIMMA, M. (1991), p. 34

¹⁰⁶ Cf. NOELLE, T.; ROGMANS, J. (2002), p. 138; Cf. MICHAELIS, H., et al (2011), p. 18

¹⁰⁷ Cf. EBISCH, H., et al (2010), p. 102; Cf. Hertel, K.A. (1998), pp. 32-33

¹⁰⁸ Cf. BIRGEL, K. (1994), p. 103; Cf. NOELLE, T.; ROGMANS, J. (2002), p. 142

2.4.4 Cost Prices and their Variants

Cost prices are applied if market prices and governmental fixed prices cannot be determined. Another prerequisite to apply cost prices is a shortage on the market or a restricted competition among bidders. It can be said that they are mainly applied for non marketable goods and services.¹⁰⁹

Cost prices are based on reasonable (but not actual)¹¹⁰ costs incurred by the contractor. An overview of existing cost price forms is shown in Figure 10.

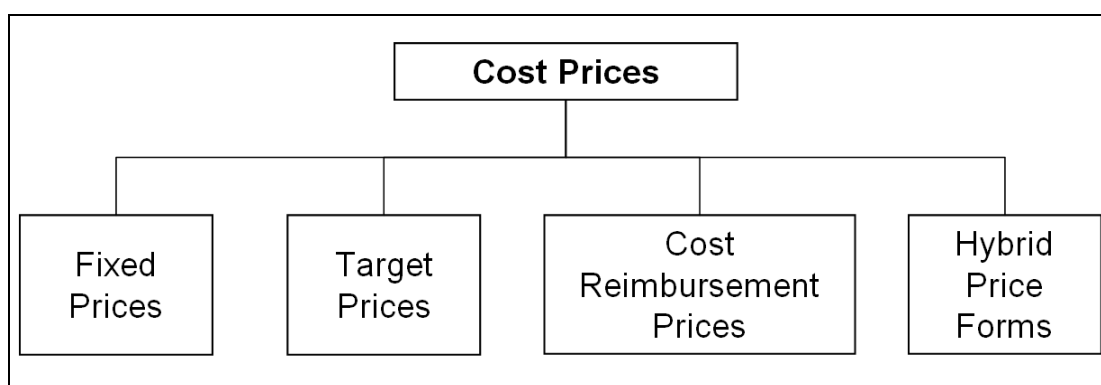


Figure 10: Variants of Cost Prices in Germany¹¹¹

Cost prices can be negotiated as fixed prices, target prices and cost reimbursement prices.¹¹²

Fixed cost prices are applied if goods and services are not common on the market. This means, the marketability can not be proven directly because it is not offered regularly (the services are not part of an official price list). The requirement to agree on a fixed cost price is to determine the quantity and time of deliveries. Both measures must be assessed pre-calculative and clearly identified. In general, prices should be set as fixed cost prices if possible. Only if the calculation data is not complete, prices can be temporarily set as target cost prices but they have to be changed to fixed cost prices as soon as the calculation data is complete. Both parties must contract the value of goods and services. If new insights occur, the valuation

¹⁰⁹ Cf. SULIMMA, M. (1991), p. 32

¹¹⁰ Cf. BIRGEL, K. (1994), p. 109

¹¹¹ Cf. DÄUMLER, K.; GRABE J. (1984), p. 23; Cf. SULIMMA, M. (1991), p. 35

¹¹² Cf. MICHAELIS, H., et al (2011), p. 19; Cf. EBISCH, H., et al (2010), p. 131

set cannot be changed anymore. Additional costs are charged to the contractor and cost reductions lead to extra profit (gains in rationalization). Furthermore, it is absolutely necessary to exactly define the deliverable goods and services. Additional equipment or changes of the product have to be paid separately. Fixed cost prices must be calculated and set until signing the contract. That means the price calculation is part of the contract which has to be shown before signing. It is possible to partially use market prices in the calculation of a fixed cost price. This price is called 'fixed cost price including market price components'. Contractors handling expenses can be considered in the calculation as general contractor's surcharge.¹¹³

Target cost prices are usually set for non marketable goods and services if the calculation basis is not complete at all. Or they are applied when fixed prices cannot be determined from missing price calculation data. When signing the contract, a target price can be agreed. The target price is an estimation of costs that is limited to maximum costs. But it is mandatory that a fixed price is negotiated to replace the target price as soon as the calculation data is complete, latest before end of production. It can be said that target prices are set temporarily before fixed prices are applicable.¹¹⁴

Cost reimbursement prices are set for non marketable goods and services where other prices cannot be determined. This includes goods and services that are unsteady or only once available on the market. They represent the lowest stage of the price staircase. The cost reimbursement prices can only be agreed if other price forms are not applicable. Furthermore, the amount of refundable costs can be limited completely on agreement of both contracting entities. Prices are finally set according to a post calculation that considers quantity and actual costs after contract completion. The billing happens only according to effective expenses within the limited refundable costs. Every part of the cost calculation regarding expenses must be documented in terms of quantities and values (an exemplary, documentary proof of adaption expenses can be found in Annex G). If possible, price calculation rates should be set as fixed rates. Additional costs exceeding the cost limit are charged to the contractor. Contractors get paid according to the result of a

¹¹³ Cf. EBISCH, H., et al (2010), pp. 137-141; Cf. MICHAELIS, H., et al (2011), §6 pp. 1-20

¹¹⁴ Cf. MICHAELIS, H., et al (2011), §6 pp. 20-34; Cf. EBISCH, H., et al (2010), pp. 141-146

post calculation done right after finishing the order. Usually, a limit of reimbursable costs is estimated and determined in advance to prevent 'cost making' of the contractor.¹¹⁵

Hybrid cost price forms are not an official price form. They are mentioned in literature as cost prices including market price elements. Market price elements are to be understood as subservices. They can be applied for:¹¹⁶

- spare parts
- accessories
- hourly rates (e.g. for workshop, assembling, design engineering, etc.)
- maintenance

An example for a product price calculation (cost reimbursement price including market price elements) can be found in Table 2. The required material and workshop services are classified as market prices. They must not be added with a profit margin because the margin is already considered in the market price calculation. The cost reimbursement price for special services is calculated separately (historical costing) according with the LSP and not mentioned at that point.

Repair Order	
	EURO
+ 200 pieces material A (10 EUR each)	2,000
+ 150 pieces material B (14 EUR each)	2,100
+ 27 service hours workshop (67 EUR each)	1,809
+ special services (separate price calculation)	3,789
= Cost Reimbursement Price in Total	<u>9,698</u>

Table 2: Product Price Calculation using a Hybrid Cost Price Form¹¹⁷

¹¹⁵ Cf. MICHAELIS, H., et al (2011), §7 pp. 1-15; Cf. EBISCH, H., et al (2010), pp. 147-154

¹¹⁶ Cf. EBISCH, H., et al (2010), pp. 131-133; Cf. MICHAELIS, H., et al (2011), §5 pp. 43-44

¹¹⁷ Cf. EBISCH, H., et al (2010), p. 133

3 Price Auditing Based on German Price Regulations

Public customers must be protected from exceeding prices. It is in everyone's interest to preserve the contracting entity of budget burden. From the enterprises point of view it is an important task of price law.¹¹⁸ Price law protects both the contractor and the customer. Inappropriate prices do not burden governmental budget and occurring costs are paid with a profit margin to the contractor.¹¹⁹

Price auditing authorities monitor compliance with regulations of price law such as VO PR 30/53 and LSP when contracting with public clients. As neutral experts between customer and contractor they are responsible for supervising compliance with price law.¹²⁰

If in a price audit, a price infringement of a company is discovered, it may happen that any revenue surplus has to be refunded.¹²¹

This chapter describes in detail the aim and main issues of price regulations VO PR 30/53 and LSP. The former Regulation No. 1/72 regulating building contracts was deleted completely for simplification reasons. The price auditing authorities and their rights are described. The price auditing process and its consequences are explained in connection with the German procurement system and according to price law provisions.

3.1 Price Regulation PR No. 30/53 on Pricing in Public Contracts

The Pricing Law Ordinance VO PR 30/53 on Pricing in relation to Public Contracts ('ordination') was set up in 1953 and last modified in 2010. As sub-discipline of commercial law it represents classical public pricing law.¹²² Public contracts are subject to specific regulations on pricing. The pricing act is the basis of the pricing law ordinance PR No 30/53.¹²³ It determines a main

¹¹⁸ Cf. DAG a), (2010), p. 2

¹¹⁹ Cf. ATTROT, W. (2008), p. 6

¹²⁰ Cf. EBISCH, H., et al (2010), p. 160

¹²¹ Cf. EBISCH, H., et al (2010), pp. 54-55, 184-185

¹²² Cf. EBISCH, H., et al (2010), p. 23

¹²³ Cf. BMWI j), (2011), <http://www.bmwi.de>

objective: establishment of market-based principles in the range of public contracts.¹²⁴ The next sections give a short overview of important content of PR No 30/53.¹²⁵ The 'Price Regulation PR No. 30/53 on Pricing in Public Contracts' can be found as Annex R.

3.1.1 Principles

In general, every public contract is subject of the pricing law ordinance. Its main objective is to establish market-based principles in the range of public contracts. Market based principles imply that there is no difference between public or private customers. From corporate view, the equal treatment of customers includes:¹²⁶

- Same discount conditions
- Granting of actual market prices
- Customary interest rates
- Price adjustment if terms are valid for years (indexation)
- Clear price structure
- Verifiable cost structure

In governmental view, three principles are determined by PR No 30/53.¹²⁷ The first one says that market prices take precedence over cost prices when stipulating price forms. That means prices for goods and services on the basis of public contracts should always be set as market prices. Cost prices can only be agreed exceptionally when market prices are not applicable. The second principle implies fixed prices should be agreed when concluding a contract. Cost reimbursement prices are not fixed prices. The third and last principle is about the maximum applicable price. Higher prices as permitted according to pricing law ordinance are not allowed to be demanded, promised, granted, stipulated or accepted.

¹²⁴ Cf. VO PR 30/53 (1953), p. 1

¹²⁵ Cf. VO PR 30/53 (1953), pp. 1-2

¹²⁶ Cf. DAG a), (2010), p. 2

¹²⁷ Cf. VO PR 30/53 (1953), §1 p. 1

This means prices stipulated by price law provisions are maximum prices that cannot be exceeded but can be lower.¹²⁸

Price law was introduced:¹²⁹

- to ensure a balanced price level
- because market prices take precedence over cost prices
- to secure cost prices based on consistent accounting and price calculation standards
- to support contracts with fixed prices
- to save public customers from excessive asking prices

3.1.2 Scope

Public contracts are concluded by the German federal government, federal states, local authorities, associations of local authorities and other legal entities governed by public law. Further customers can be foreign forces and the civilian component of such forces which belong to the 'Agreement between the Parties to the North Atlantic Treaty' and which are located in the Federal Republic of Germany. The range of possible contractors is not restricted by PR No 30/53. Every corporate enterprise can enter a governmental related contract, even governmental departments can be contractors of governmental related contracts.¹³⁰

3.1.3 Auditing of Prices

The departments of the federal states are responsible for pricing and price monitoring.¹³¹ Violations of price regulations may lead to a cancellation of a price agreement. The invalid price has to be replaced by a price permitted by price law. Revenue surplus from exceeding maximum prices determined by

¹²⁸ Cf. MICHAELIS, H., et al (2011), p. 15; Cf. EBISCH, H., et al (2010), p. 35

¹²⁹ Cf. DAG a), (2010), p. 8

¹³⁰ Cf. EBISCH, H., et al (2010), pp. 61-64

¹³¹ Cf. VO PR 30/53 (1953), §9

price law must be paid back. On the other hand, if a lower price than acceptable by price law is noticed, no additional payment is done.¹³²

PR No 30/53 determines that pricing and price review authorities can request evidence showing how the prices have been set. Compliance with these regulations is investigated and determined by the authorities. Contractors shall provide the requested evidence. Liable is the corporate management. Authorities can examine the contractor's records, make copies of them and inspect the contractor's plants. All records shall be retained for at least five years by the contractor.¹³³

3.2 Guidelines for Pricing on the Basis of Cost

The guidelines regulate pricing on the basis of cost in general and give provisions in detail for the structure of in-house cost accounting. Their aim is to enforce corporate cost controlling when a contract on cost price basis is awarded.¹³⁴

The contractor is liable for introducing and maintaining a regular accounting system. On request, the customer can claim an explanation if prices are calculated according to guidelines for pricing on the basis of cost.¹³⁵

3.2.1 Pricing Process According to Guidelines

Costs are calculated by the quantity and value of goods and services used to produce the contract item. In the determination of prices on the basis of cost, only those costs will be considered which occur in an efficient operation of the enterprise. The cost price equals the total allowable cost of the contract plus the contractor's fee. If the contractor's accounting system operates on principles that differ from the provisions of the guidelines, the determination of costs may be performed in the way of cost additions and deductions, provided that this does not affect cost verifiability.¹³⁶

¹³² Cf. EBISCH, H., et al (2010), p. 160,182-186

¹³³ Cf. VO PR 30/53 (1953), §9

¹³⁴ Cf. SULIMMA, M. (1991), p. 26

¹³⁵ Cf. EBISCH, H., et al (2010), p. 7

¹³⁶ Cf. LSP (1953), p. 6

Only the occurred costs associated with the output of goods and services are subject of cost price calculations. The so called cost causation principle is significant for cost accounting.¹³⁷

Cost-based prices may be established:

- by forward costing, either as fixed or target prices (at current price)
- by historical costing, as cost reimbursement prices (at purchase price)
- by forward costing for some cost categories and historical costing for the remaining cost categories

Glinder recommends that cost prices should be stipulated as fixed cost prices calculated by forward costing. Only if the cost calculation basis is not clear, cost reimbursement prices should be calculated by historical costing.¹³⁸

3.2.2 Price Calculation Structure

The contracting public agency and the contractor may agree to use specific calculation formats for forward costing and historical costing. The format must follow a uniform pattern to allow comparisons. Costs will be broken down at least to the categories shown in Table 3. Direct and indirect costs are to be stated separately for each mentioned cost category:¹³⁹

+ Production material costs
+ Production costs
+ Development and design costs
+ Administration costs
+ Distribution costs
<hr/>
= Prime costs
+ Calculated profit
<hr/>
= Cost price

Table 3: Minimum Structure of Cost Categories¹⁴⁰

¹³⁷ Cf. ATTROT, W. (2008), p. 2

¹³⁸ Cf. GLINDER, P. (2006), p. 30

¹³⁹ Cf. EBISCH, H., et al (2010), p. 10

¹⁴⁰ Cf. LSP (1953), §10.3

General information is to be specified in addition to every price calculation:¹⁴¹

- An exact description of goods and services to which the calculation relates
- The supplying plant
- The overall quantity
- The date of calculation completion
- The overall quantity delivered
- The terms of delivery if they influence the cost price

If pricing is based on historical costing the following additional information is required:¹⁴²

- The period of performance
- Any similar goods or services previously supplied or yet to be supplied under contracts awarded or promised

3.2.3 Nonrecurring Costs (Focusing Development Expenses)

As already displayed, a cost price calculation structure consists of different costing positions. Costs for development, design and tests can be classified as nonrecurring costs. Nonrecurring costs can be independent development or contract sponsored development. Not in the range of development are performances for series production-preparation or implementation and logistic activities.¹⁴³

Independent development includes activities initiated by the corporate management for general product development and improvement.¹⁴⁴

Development and design work, research, testing and manufacturing of experimental items beyond the scope of the contractor's so-called 'independent' development will be subject to contractual agreement between

¹⁴¹ Cf. LSP (1953), §9.1

¹⁴² Cf. LSP (1953), §9.2

¹⁴³ Cf. MÜLLER, R. (1993), pp. 133-136

¹⁴⁴ Cf. EBISCH, H., et al (2010), p. 392

the contracting public agency and the contractor. That means if development activities are part of a contract, they are classified as 'contract-sponsored development'. Verification of costs: all costs incurred for contractor's 'independent' development and 'contract-sponsored' development and their allocation will be classified separately for each type of work. Details will be determined in agreement with the contracting public agency as appropriate.¹⁴⁵

In price calculations, development and design costs will be broken down to costs of 'independent' and costs of 'contract-sponsored' development.¹⁴⁶ Prime costs can be charged with independent development costs according to a useful product lifetime. Only the concerned cost objectives can be charged.¹⁴⁷

3.2.4 Cost Prices Differences to Business Economics Cost Prices

Cost prices according to public price differ in comparison to business economics cost prices in terms of profit margin. The profit margin according to price law is part of a cost price.¹⁴⁸ Singer describes the profit margin as cost price element in connection with price law. This is, in his opinion, the main difference to business economics price calculation schemes. The profit add-on is usually about 5% but 6.5% at the most.¹⁴⁹ Glinder mentions an employment level of 80%. A lower employment rate taken as a basis does not meet the adequacy of costs. This kind of limitation refers to reasonable and not actual costs.¹⁵⁰

¹⁴⁵ Cf. MÜLLER, R. (1993), pp. 133-136

¹⁴⁶ Cf. LSP (1953), pp. 17,18

¹⁴⁷ Cf. GLINDER, P. (2006), p. 34

¹⁴⁸ Cf. KELLER-STOLTENHOFF, E. (2010), <http://www.it-recht-kanzlei.de>

¹⁴⁹ Cf. SINGER, M. (2010), <http://www.vergabeblog.de>

¹⁵⁰ Cf. GLINDER, P. (2006), p. 32

3.3 Auditing Process, Authorities and Their Rights

In the beginning of this chapter, the acting entities and their powers are described in detail. To give an overview of the complex competences, a RACI-chart (Responsible-Accountable-Consulted-Informed) is provided in the end of this chapter to summarize the elaboration.

The VO PR 30/53 differentiates two assignments of pricing authorities such as price auditing and prosecuting and punishing price violations. In case of a price audit, it is obligatory for the contractor to show evidence about the occurrence of prices. This usually happens on request of the responsible auditing authorities.¹⁵¹

In principle, all contracts signed with public authorities are subject to price audits. Pricing and price monitoring is done by the responsible authorities of the federal states (responsible for the Daimler AG: German Regional Council of Stuttgart).

Usually, an audit request is fared to the German Regional Council by the customer (an example of a detailed audit request can be found as Annex N and Annex O), sometimes it may happen that the contractor requests an audit. Regardless of the audits on request, the pricing authority can carry out price control activities as a sovereign function. That means it does not matter whether or not a suspicion of price violation exists. The pricing authority is allowed to operate in any case when dealing with government-related customers. This audit authorisation can never be excluded in a contract. A price audit aims to find out the legal maximum price regarding the contracted content. It is used as a scale for the legitimacy of the contracted price.¹⁵²

That means the legal maximum price is determined and forwarded to the customer and contractor. The mentioned price is not the price that must be contracted, it is only a price limit that cannot be exceeded under legal condition. It is up to the customer to negotiate a lower price.¹⁵³

There are different types of price audits and auditing activities. They are performed by different authorities and the important ones are explained in the next sections.¹⁵⁴

¹⁵¹ Cf. ENGEL, C. (1983), pp. 63-64

¹⁵² Cf. EBISCH, H., et al (2010), pp. 156,173,174

¹⁵³ Cf. ENGEL, C. (1983), pp. 81,82

¹⁵⁴ Cf. NOELLE, T.; ROGMANS, J. (2002), p. 163

3.3.1 Departments of Price Forming

The departments of price forming ('Preisbildungsstellen') are mainly responsible for solving problems of principle. For instance, they can suggest a price form if there is no agreement between the contracting entities. Another task is to find out if prerequisites to set a cost price are met.¹⁵⁵ Furthermore, they assist the departments of price monitoring in a consultant manner like a supervisory authority. Their task can be compared with an arbitration board in the form of decisions and recommendations which are not legally binding in the end.¹⁵⁶

3.3.2 Departments of Price Monitoring

Price monitoring departments ('Preisüberwachungsstellen') are responsible for performing control tasks in public procurement. They carry out price audits in general and investigate to prosecute and punish price violations. The agencies check legal compliance of market prices as well as cost prices. The audit result covers a price limit, check of marketability of market prices and adequacy of prices.¹⁵⁷ Only the departments of price forming and monitoring are responsible for auditing market prices.¹⁵⁸

3.3.3 Authorised Departments

The Federal Minister of Economics has the possibility to authorise departments with auditing rights. That means, in exceptional cases a governmental customer can audit prices of a related contractor ('Feststellungsrecht'). Only cost prices can be audited and if there is no agreement between contractor and (auditing) customer, the department of price forming can be involved to state a final recommendation.¹⁵⁹ Authorised departments can only check legal compliance of cost prices.¹⁶⁰

¹⁵⁵ Cf. MICHAELIS, H., et al (2011), §10 p. 16

¹⁵⁶ Cf. ENGEL, C. (1983), p. 67; Cf. BIRGEL, K. (1994), p. 123

¹⁵⁷ Cf. NOELLE, T.; ROGMANS, J. (2002), p. 163

¹⁵⁸ Cf. BMWI f), (2010), p. 1

¹⁵⁹ Cf. MÜLLER, R. (1993), p. 161

¹⁶⁰ Cf. NOELLE, T.; ROGMANS, J. (2002), p. 164

3.3.4 The Federal Office of Defence Technology and Procurement

The office holds a right of participation in price auditing if the contractor submits an explicit declaration of consent. Fixed cost prices can be audited in terms of adequacy of costs. The auditing of market prices as well as auditing cost reimbursement prices is only conducted by the price monitoring department.¹⁶¹ The right of participating in price audits is limited in time. The duration is usually four years and must be extended to prevent the exclusion of the originally responsible auditing departments.¹⁶² An overview of awarding procedure, price form and auditing authority is shown in Figure 11.

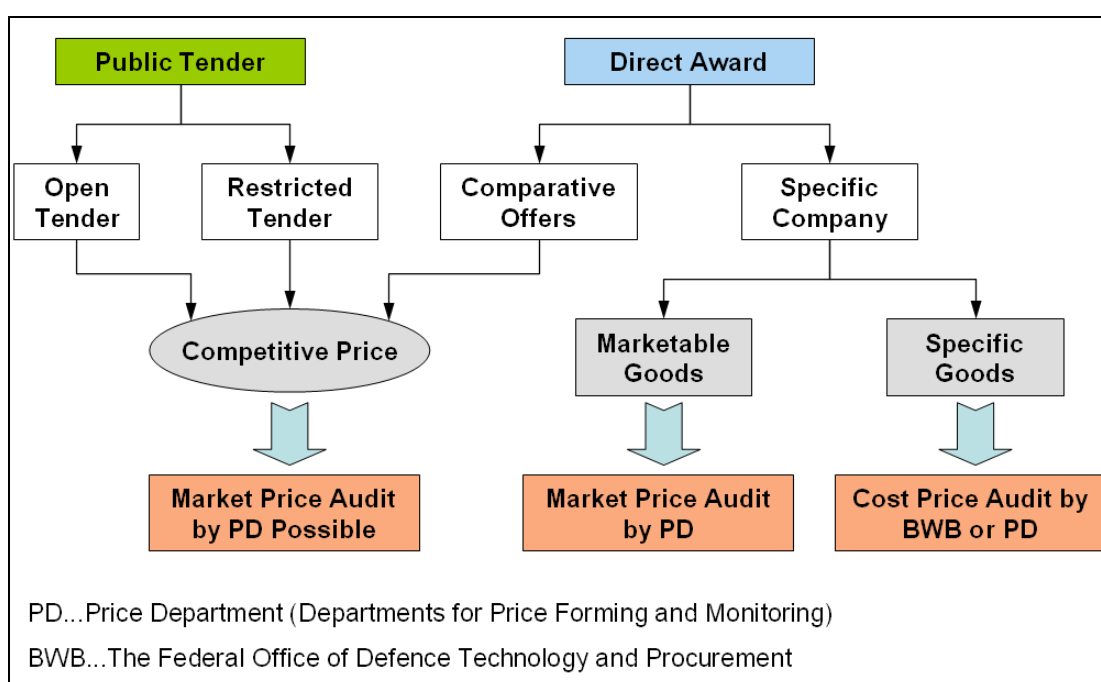


Figure 11: Auditing Powers in Connection with Awarding Procedures¹⁶³

An overview of auditing parties and their auditing powers can be found in Table 4. The role 'accountable' is not considered in the chart to keep it simple (RCI). This kind of R(A)CI chart is comparable to the so called DMI-Matrix ('Durchführen-Mitwirken-Informieren'), which is a common project management tool in German speaking areas.¹⁶⁴

¹⁶¹ Cf. NOELLE, T.; ROGMANS, J. (2002), p. 165

¹⁶² Cf. BMWI f), (2010), p. 4

¹⁶³ Cf. MÜLLER, R. (1993), p. 179

¹⁶⁴ Cf. GUTJAHR, L. (2009), pp. 77-78; Cf. STEIN, F. (2007), pp. 86-88

RCI-chart according to price auditing in business to government relationships		Participating parties role				
		Price forming department	Price monitoring department	Authorised departments	Federal office of defence	Contractor
No.	Definition of auditing activities	C(R)	R	I	I	I
1	Check of market prices according to §4 Regulation PR No. 30/53	C(R)	R	I	I	I
2	Check of fixed cost prices (adequacy of costs)	C(R)	C(R)	R**	R**	I
3	Check of indirect costs (based on historical costing)	C(R)	R/I	I	I(R*)	I
4	Check of individual orders	C(R)	R	I	I	I
5	Check of cost reimbursement prices (based on historical costing)	C(R)	R/I	R**	(R*)	I
6	Audit report	(R)	R	(R)	(R)	I

Responsible, Consulted and Informed
 *if responsible departments are inactive for more than one year and contractor's consent exists
 **only valid for a certain period of time starting with proposal submittal and ending with award of contract

Table 4: RCI-Chart According with Price Auditing (own table)

From practical experience it can be said that the lower the price form in the price staircase is set, the more detailed auditing rights the authorities obtain. That means the price verification has to be prepared in much detail if cost prices are audited. This causes a lot of efforts on both the contractor's and the auditor's side.

3.3.5 Auditing of Prices and Price Forms

If requested to do so, the contractor must demonstrate to the authorities responsible for pricing and price monitoring how the prices in question were achieved. It must be evident from documents held in this regard that the prices in question are permissible under the provisions of VO PR 30/53.¹⁶⁵ This means the correct fixing of the price form - market price or cost price - is the first relevant step when price auditing. When auditing, the authorities are allowed to take actions regarding the contracted prices only. The statement of the auditing authorities is about legal compliance of prices.

¹⁶⁵ Cf. VO PR 30/53 (1953), §9; Cf. EBISCH, H., et al (2010), p. 162

Powers of auditing authorities and evidence obligations of the contracting companies are:¹⁶⁶

- Request of information from the contractor; obliged to answer are general managers of the company
- Inspection of internal company documentation by visiting the business premises
- Copies of relevant documents on contractor's costs
- Visiting of premises, workplaces, factories and properties to verify the business-minded approach to price calculations
- Evidence about the occurrence of contractual prices
- Witnesses and external experts are not allowed to be under examination in the context of a standard economic price auditing procedure
- If no documents exist, it is not a must to show evidence

When market prices are audited, only the finally agreed prices are reviewed. The customer or the auditing authority has no power to receive details of market prices such as price calculations. Furthermore it is not the intention of VO PR 30/53 to inspect prime costs of market prices.¹⁶⁷

Auditing of market prices - steps, evidence and conditions:¹⁶⁸

- Comparable offers, correspondence, outgoing invoices and bank credit advices
- Marketable services are audited by the inspection of offers, outgoing invoices and price lists
- When contracting prices from price lists, the comparability of delivered goods and services is checked as well as the regular and common use of these prices

¹⁶⁶ Cf. EBISCH, H., et al (2010), pp. 163-164; Cf. NOELLE, T.; ROGMANS, J. (2002), pp. 165-166; Cf. BIRGEL, K. (1994), pp. 124-125

¹⁶⁷ Cf. ALTMANN, C.H. (1960), pp. 65-66; Cf. DAG a), (2010), p. 9

¹⁶⁸ Cf. EBISCH, H., et al (2010), p. 163; Cf. NOELLE, T.; ROGMANS, J. (2002), p. 167; Cf. ENGEL, C. (1983), pp. 75-76

- New market prices are formed on the basis of a restricted tender and can be checked if competition is restricted because of complex tendering procedures
- Costs of market prices can never be audited - if, however, a derived market price is based on a cost difference, only the difference can be evaluated according to cost prices auditing criteria
- If advantages for non government-related customers are granted, it is checked if governmental customers get the same conditions. This is examined by reviewing outgoing invoices and bank credit advices
- Common prices for merchantable goods and services are not to be exceeded
- Usually, granted benefits, especially quantity and cash discounts, are to be admitted to the public customer (if equal conditions exist)
- If goods and services are delivered over years, the annual price increase has to be consistent with market conditions

The practical experience has shown that market prices can be applied if goods and services are regularly offered to an open range of customers at a market-oriented price. To proof market-orientation it is sufficient to show a valid price list and evidence of a commercially available market discount. Generally this happens on presentation of invoice copies from at least five comparable contracts. The merchantability proof of special equipment is especially difficult (such as customized equipment, special protection equipment). If the proof of what is usual on the market cannot be given by the contractor, the price form is set down to cost price by the price auditor.

Cost prices must relate to reasonable costs or are expected to be incurred by the contractor. They may only be agreed upon if market prices cannot be stipulated or a shortage situation prevails or competition is limited on the supply side. If possible, a cost price calculation shall be submitted together with the bid. For each additional contract (follow-up contract of equal goods and services under identical conditions) a check should be performed if market prices are applicable meanwhile.¹⁶⁹

¹⁶⁹ Cf. VO PR 30/53 (1953), §4-6

Auditing of cost prices - steps, evidence and conditions:¹⁷⁰

- Adequacy of costs must be guaranteed and correspond to economical and cost efficient management
- Fixed cost prices are audited in two steps: a principle check of indirect costs and an individual order check of direct costs that set the price limit concerning the contents
- First, common documents like preliminary calculations are requested; if more detailed evidence is necessary the auditing authority will request it separately
- Evidence of direct costs can be particular documents, lists and detailed records
- Indirect costs can be verified by cost type and cost centre accounting
- When auditing fixed cost prices, only the data of preliminary costing calculations is allowed to be used
- Target cost prices are to be checked as soon as they can be switched to fixed cost prices
- Consulting external experts is common in relation to technical matters
- In the end, a final meeting is recommended to explain auditing results to the contractor

When cost prices are audited, it has to be checked if requirements for the next higher price step of the price staircase are fulfilled. This provision mainly affects target cost prices.¹⁷¹

In general, the result of a price audit leads to price confirmation. If an administrative offence occurs, the contractor has to repay the difference to the customer. If there is an overburden of costs, there is never a reimbursement of costs for the contractor.

¹⁷⁰ Cf. NOELLE, T.; ROGMANS, J. (2002), p. 168; Cf. EBISCH, H., et al (2010), pp. 163,173; Cf. ENGEL, C. (1983), pp. 77-78

¹⁷¹ Cf. VO PR 30/53 (1953), §6-7

That means if the contractor has higher costs then charged to the customer, there is no compensation of corporate losses. Reasons for administrative offences can be:¹⁷²

- the discount set is too low
- a wrong price form was agreed
- the applied general contractor surcharge was set too high
- no cost evidence available when verifying cost prices (examples for missing evidence: invoice, offers and other documents)

As reasons for incorrect cost price calculations, Diederich states the misinterpretation of pricing provisions and using discretionary powers.¹⁷³

Engel states that fixed cost prices calculated by forward costing cover an advantage. If the contractor manages to produce his goods and services for costs lower than originally offered, contracted and audited, the extra profit remains to the contractor's budget.¹⁷⁴

Because of very high practical relevance, the possibility for the customers to perform a price audit on their own is shown in Figure 12. This directly related price audit can happen if the contracted price form is set as 'target cost price' or 'fixed cost price'. The customer has the choice to enter a price dialogue or a price verification.

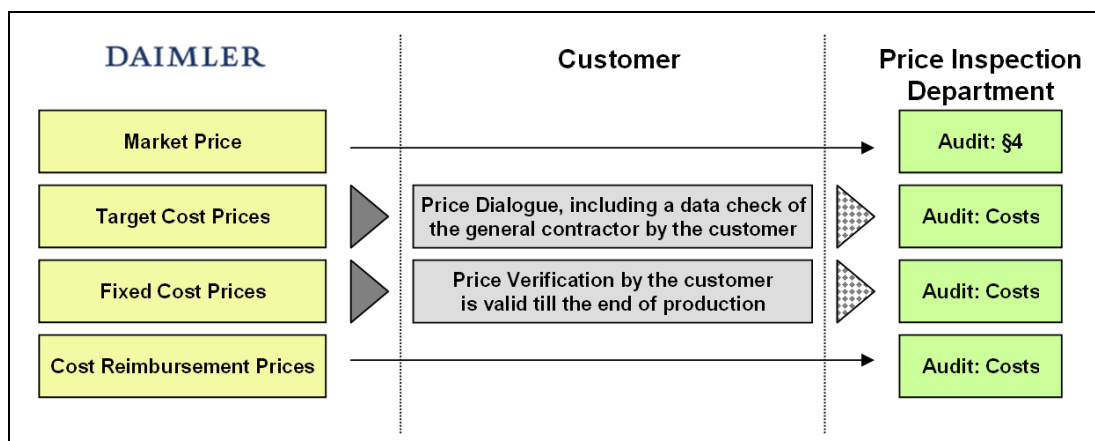


Figure 12: Customers Audit Powers¹⁷⁵

¹⁷² Cf. DAG a), (2010), p. 9

¹⁷³ Cf. DIEDERICH, H. (1961), pp. 41-42

¹⁷⁴ Cf. ENGEL, C. (1983), p. 78

¹⁷⁵ Cf. DAG a), (2010), p. 12

3.3.6 Relationships in Price Audits

In corporate view, a price audit can be conducted in terms of different relationships. To explain the relationship of an auditing entity and the contractor, it is necessary to extend the term contractor and explain three common relationships:

- direct relationship between customer and contractor
- additional auditing access of a subsidiary company (or a sub-contractor)
- no access of the contractor if an independent subsidiary fulfills the contract

For a better overview of this relationship types, the three mentioned principles are shown in Figure 13.

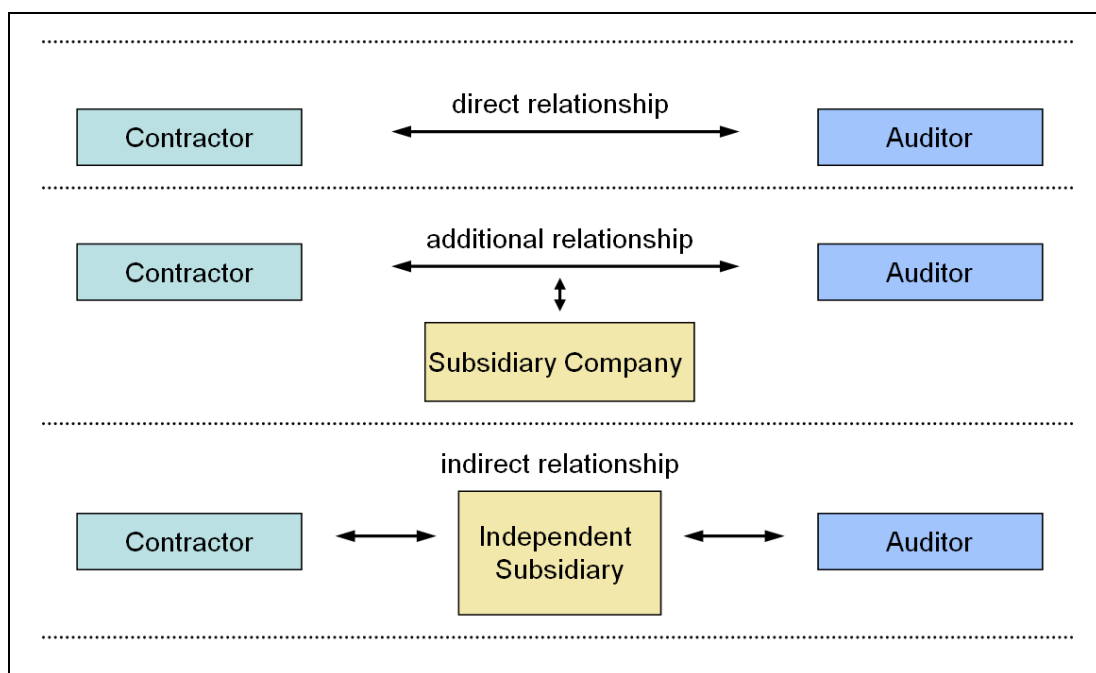


Figure 13: Relationships of Permitted Price Audits¹⁷⁶

¹⁷⁶ Cf. DAG a), (2010), p. 11

3.4 Consequences of Price Audits

In fact, bureaucracy of price audits causes first a lot of efforts and second according costs.¹⁷⁷ When offering goods and services to a governmental authority, contractors should be aware of the non chargeable overhead costs for maintaining a price auditor's demands. The administration efforts are mainly set by choosing a price form. Depending on the price form, the detail level of documentary proof to be prepared is determined.

In a price audit, different aspects are considered. First, the customer's compliance with procurement procedures is reviewed. If price forms are correct, the contracted content is audited. Depending on the price form, more or less detailed evidence is requested from the contractor. The audit result is highly affected by the evidence presented. It may occur that no evidence exists at all or that the contractor refuses to show existing evidence. Extra evidence for the proof of specific equipment is requested by the auditor on demand. When every relevant audit position of a cost price audit is clear to the auditor, regardless of whether the conclusion is positive or negative, a closing meeting is announced. The closing meeting is not mandatory but a good and fair practice to discuss the audit result with all participating parties. In the end, the result is summarized in an audit report by the price monitoring department, which also considers disagreements that arose in the closing meeting.¹⁷⁸

3.4.1 Audit Report

When a price audit is performed, the auditing authority usually submits an audit report to the customer and the contractor. It is not mandatory to submit a report copy to the contractor but it is common practice. The reports content is not legally binding because a report is not an administrative act but a statement. It is the customer's decision to either enforce the audit result by negotiation or by court. Important for the customer is to negotiate the contracted price and set a price under the price limit determined by the auditor. The price limit is always officially declared in the audit report.¹⁷⁹

¹⁷⁷ Cf. MICHAELIS, H., et al (2011), p. 6

¹⁷⁸ Cf. BIRGEL, K. (1994), pp. 127-128; Cf. EBISCH, H., et al (2010), p. 174

¹⁷⁹ Cf. MÜLLER, R. (1993), p. 159; Cf. EBISCH, H., et al (2010), pp. 158,174

To get an overview of what is the content of an audit report and how results of legal audit conditions look like in practice, an exemplary audit report can be found in Annex B.

3.4.2 Result Types of a Price Audit

Under corporate view the following audit result types and underlying reasons can be established:¹⁸⁰

- Neutrally: the invoice amount is confirmed, the price is correct in terms of price form and value
- Invalid price form: if conditions are not fulfilled, the contracted price form has to be replaced by the correct price form, extra revenues have to be paid back
- Overrun: the price form is correct, but the invoice amount shows a higher price than the acceptable one according to price law; as a consequence the contractor has to repay the difference to the customer
- Lower deviation: the price form is correct, the invoice amount is lower than the permissible one by price law; there is no payment for the price difference permitted (by the customer to the contractor)

3.4.3 Refusing to Give Evidence

The contractor may refuse to give evidence for one of two reasons. The first reason is if the contractor did a punishable offence. Nobody can force the contractor to accuse himself. The consequence is an initiation of proceedings in terms of an administrative offence because suspicion of a price violation can be supposed.¹⁸¹

The second reason can be a missing contract. For instance, only an offer is submitted and the potential contractor does not want to show his calculation details for certain reasons. As a consequence, the price supervision

¹⁸⁰ Cf. DAG d), (2010), p. 3; Cf. BIRGEL, K. (1994), p. 125; Cf. EBISCH, H., et al (2010), p. 174

¹⁸¹ Cf. MICHAELIS, H., et al (2011), §9 p. 27

procedure has to be closed without result.¹⁸² If the reasons for the rejection to give evidence are not justified, a penalty notice is fared in accordance with economy penal law. The contractor can appeal to court against the penalty.¹⁸³ The customer can decide consequences against the potential contractor. As example he can reject awarding the contract or resign from an existing contract and demand a payback of already paid fees. Another possible consequence is, not to consider the violating company in future procurements.¹⁸⁴

3.4.4 Non-Compliance with Legislation

Non-compliance with legislative regulations is avenged by penalties in accordance with the penalty clauses contained within the Economic Offences Act. This way, it is achieved that the offender cannot keep any surplus. Investigations are initiated if the contractor did wrong price form classifications, disregarded price limits or did a non-adequate price calculation.¹⁸⁵

3.4.5 Documents retention period

All relevant documents must be retained for at least five years after completing the order.¹⁸⁶ Ebisch determines the start of a retention period by the day of submitting an offer. For cost reimbursement prices, the period starts with handing over the post calculation.¹⁸⁷ Birgel on the other hand states that the tax and accounting periods are relevant. A missing evidence can only be excused if it concerns vouchers without legal relevance.¹⁸⁸

¹⁸² Cf. EBISCH, H., et al (2010), p. 171

¹⁸³ Cf. Cf. EBISCH, H., et al (2010), p. 181-186

¹⁸⁴ Cf. EBISCH, H., et al (2010), pp. 170-171

¹⁸⁵ Cf. BIRGEL, K. (1994), p.137

¹⁸⁶ Cf. VO PR 30/53 (1953), §9

¹⁸⁷ Cf. EBISCH, H., et al (2010), p. 172

¹⁸⁸ Cf. BIRGEL, K. (1994), p. 124

Practical experience has shown that additional agreements eventually affect the retention period. Effects are shown in Table 5.¹⁸⁹

31.03.2006	Proposal Submittal	Start of document retention obligation
01.10.2006	Contract Award	Three years project life span
15.12.2009	Completion	Price check request within five years
01.12.2013	Check Request	Price check within five years
31.03.2014	Audit Report	Five more years retention possible
31.03.2019	Shredding	End of retention period

Total retention period of this example: 13 years

Table 5: Example of Retention Periods Regarding Market Prices¹⁹⁰

3.4.6 Statistical Reports

According to EU-law a statistical reporting obligation must be performed. On request, the European Commission has to be informed in detail about ongoing public procurement activities. Furthermore, EU member states must provide statements regarding price audits and their results which can be viewed by the public.¹⁹¹

3.4.7 Influence on Corporate Pricing

Engel found that price audits lead to a price cut of approximately 1.5% of the contracted value. On the other hand, the specialists of the Federal Office of Defence Technology and Procurement achieve a payback rate of approximately 5%. Not every contract can be audited due to personal capacity of the auditing departments but the deterrent effect is not to be underestimated.¹⁹² Practical experience at Daimler has shown the same result, the payback rate over years has shown approximately 1.1% per contract.

¹⁸⁹ Cf. MICHAELIS, H., et al (2011), §9 p. 31

¹⁹⁰ Cf. DAG a), (2010), p. 24

¹⁹¹ Cf. BMWI g), (2012), <http://www.bmwi.de>

¹⁹² Cf. ENGEL, C. (1983), pp. 83,133,135

In a price audit, a variety of interconnected topics is reviewed. The variety of topics and their interconnections are shown in Figure 14.

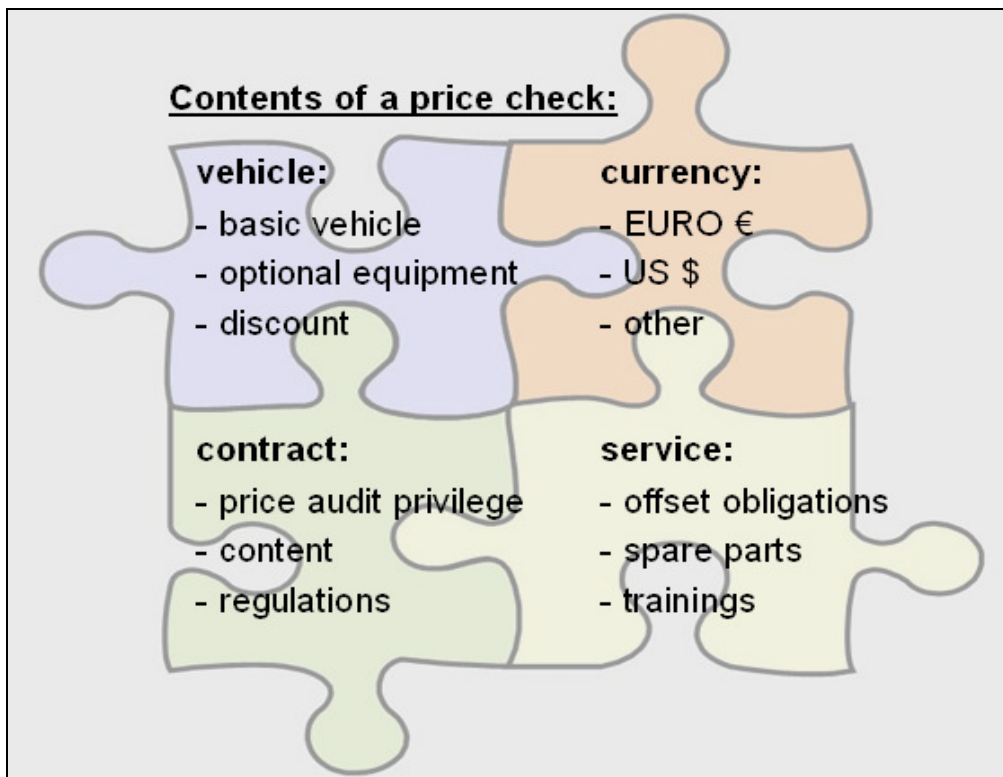


Figure 14: Interconnected Topics, Individually Considered in a Price Audit¹⁹³

During an official price audit, the price auditing departments and customers with auditing powers directly contact the price auditing division at Daimler AG. Mercedes Benz Consult Graz (MBCG) is responsible to secure the topic 'vehicle price calculation' and reports to the auditing division at Daimler AG. The auditing division of Daimler AG can further request other details about contracted products at MBCG. The exact corporate procedure regarding auditing evidence can be found in Annex H.

¹⁹³ Cf. DAG d), (2010), p. 10

4 Corporate Pricing at Mercedes Benz Consult Graz

Corporate product pricing in general can be summarized to related basics as shown in Figure 15. The customer demands should be fulfilled as well as possible by the existing corporate product portfolio. When it comes to an offer, the price must be set under consideration of legal conditions. Price modules must be declared in a legally correct manner and the according evidence must be complete. It can happen that the same product can be priced with two (or more) different values and each price calculation variant is compliant with legal conditions.

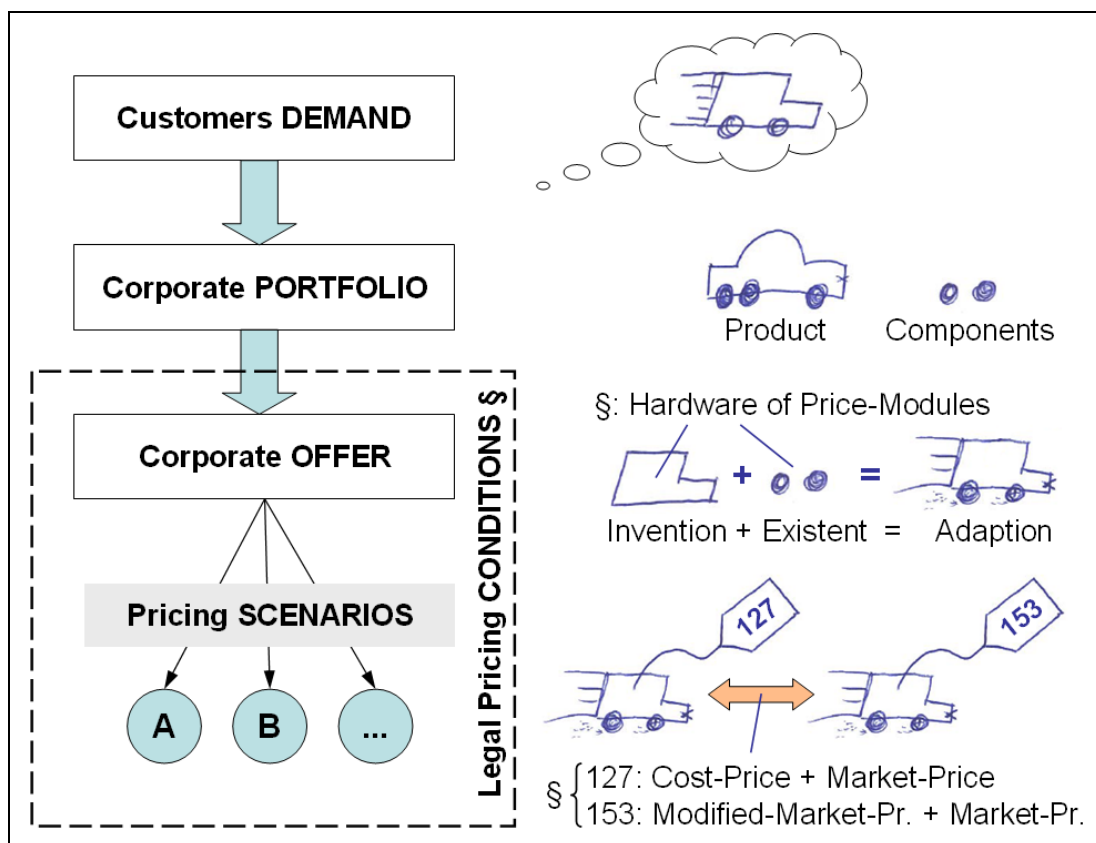


Figure 15: Corporate Pricing Basics (own illustration)

The standard corporate pricing procedure of MBCG is about generating an offer according to customer demands. An overview of the existing process at MBCG is shown in Figure 16. The exact procedure steps are regulated by company internal directives which are not relevant at this point.

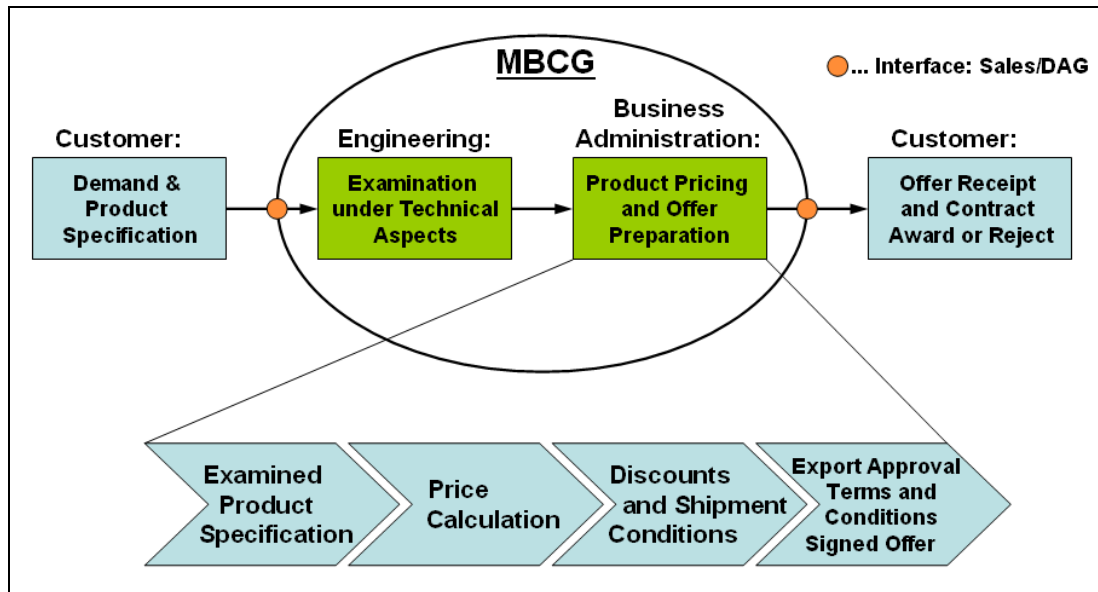


Figure 16: Pricing Procedure of MBCG (own illustration)

When products for civil customers are priced, legal pricing conditions are not especially attended but their compliance is performed in any case because of standardized, pricing schemes that are fully compliant with legislation.

Pricing of goods and services according to German price regulations is different to this standard procedure. Legislative pricing conditions must be considered from the beginning of the pricing procedure. The main issue is about the correct price form classification of price modules. Depending on the product specification, different price forms for price modules can be set. Depending on the price forms set, the price calculation of delivery contents shows different product prices.

If a standard product is requested by the government-related customer, price variations are very limited. That means only one certain price fits under legal aspects. But if a specialized product is requested, there are several strategies available to price the product. These pricing strategies are introduced in the next sections.

4.1 Process Interactions

When pricing a product under the aspect of different strategies, it is important to understand the process interactions in B2G relationships (Figure 17).

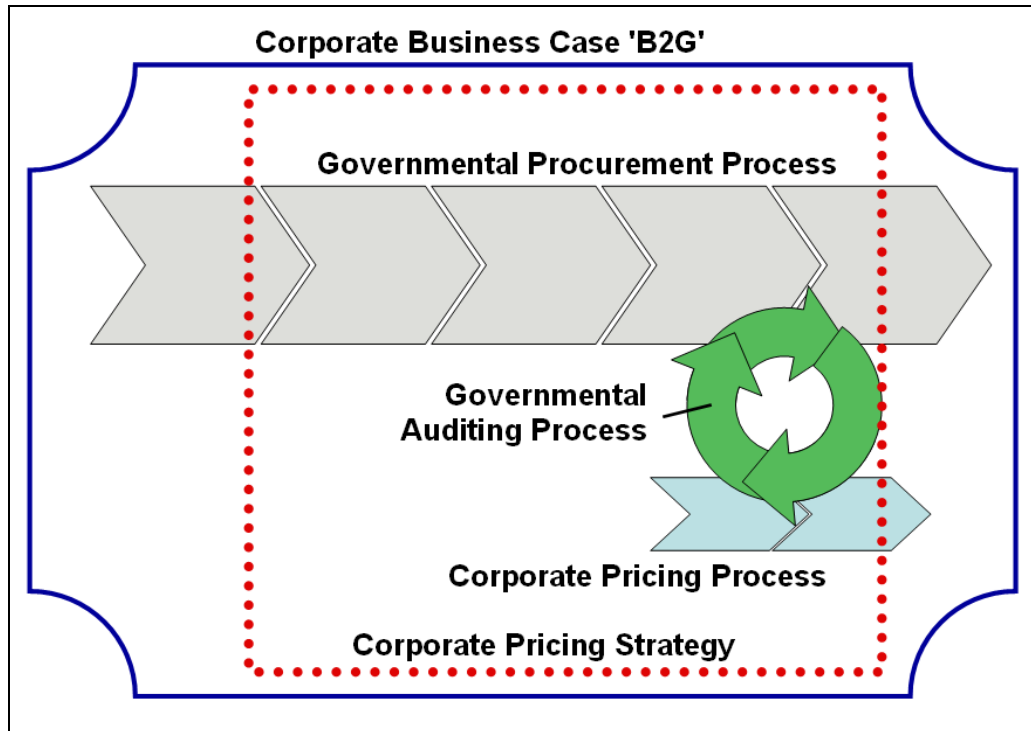


Figure 17: Process Interactions in B2G Relationships (own illustration)

From corporate point of view, the main process is the business case: selling a product for money under profitable economic conditions. The governmental procurement process is completely embedded in a company's business case. When the tendered product details are clear and a management decision is taken to place an offer, the corporate pricing process can be initiated. The governmental auditing process is more or less a neutral control instance that checks if business processes of both parties are conducted in compliance with legislation. If the audit process is initiated and evidence requested from DAG, a certain corporate procedure must be observed (Annex H).

The consequences of actions, reactions and interactions of business processes must be considered in the frame of corporate pricing strategies. Different prices for identical products must be compared. The result is to find out which scenario is the economically better deal. The chosen pricing strategy influences the result.

4.2 Pricing Strategies According to German Legislation

Corporate pricing strategies unite different processes as shown in Figure 18. Processes include the procurement system, price auditing and governmental pricing process for example. From governmental point of view, the strict compliance with definitions and legal regulations is a prerequisite. They leave no scope to modify legal processes and procedures. But on the other hand, the corporate pricing process, based on legal regulations, can be influenced by the enterprise's management decisions. As a result, the product price can vary depending on the chosen pricing strategy. These connections can be drawn and are shown in Figure 18.

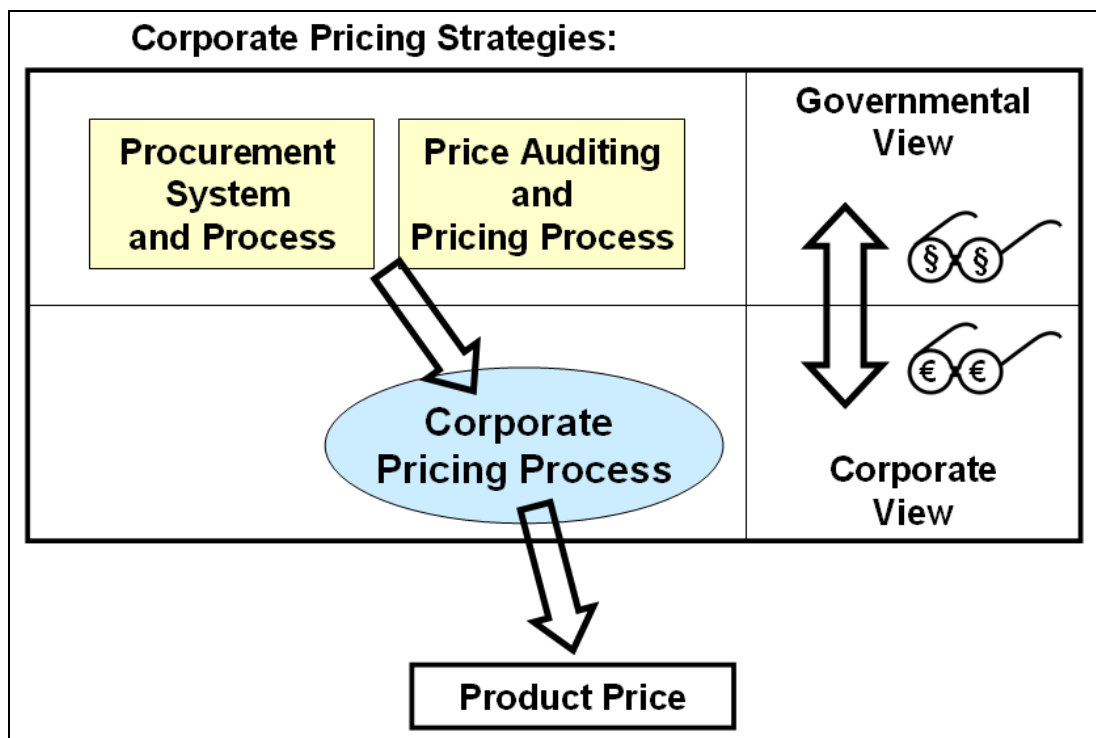


Figure 18: Field of Corporate Pricing Strategies (own illustration)

The aim behind a varying product price can be of strategic nature. In the next sections, different approaches for strategic pricing directions are shown.

4.2.1 Price Confirmation - Economic Profit

This pricing strategy is the common and conventional approach. In general, prices are calculated according to enterprise regulations. Market prices are mainly the basis for calculating product prices. Specific products are calculated according to cost price conditions because they are not available on the market and must be developed and introduced first. Both price forms contain a profit margin that can be estimated and reported to the company-internal controlling department. The desired result of a conducted price audit is to get the offered price fully paid. Planning reliability is the superficial objective. If price cuts occur, they are a big problem because they influence the annual financial result.

If that pricing strategy is applied, it is usually aimed at the maximum economic profit. Depending on the offered goods and services, the profit can vary if market or cost prices are used. For example, a cost price contains a legally permitted profit margin in single-digit range. The profit range can be a bit better if more costs than usual are considered. Only auditing specialists can proof these kinds of modifications afterwards. Due to compliance with the corporate code of conduct it is unlikely that these practices are common at stock corporations like Daimler. Instruments as delegation, supervision and the double check principle protect from fraud or misuse.

Market prices contain variable profit margins. The margins are usually in a higher range than cost prices. Market prices normally represent the maximum price paid on the market for the offered product. It can happen that profit margins are set and get paid in double-digit range.

Exceptions for very low profit margins of market prices can be mentioned for example, if bargain prices are offered on the market. In that case it is not allowed to set the price form to cost price for gaining a higher profit margin. Due to legal restrictions, market prices must be applied.¹⁹⁴

¹⁹⁴ Cf. VO PR 30/53 (1953), §1

4.2.2 Refunding of Extra Revenue - Estimating Penalty

This strategy is more likely to be theoretical than in practical use. The unconventional approach is that if goods and services are offered, market or cost prices are applied. Depending on the better profit margin, the offered price is calculated and declared as cost or market price in contracts. In the end, the price auditor has to verify whether or not the stated price form is correct. If no price audit takes place because of too less personal capacity of the auditing department, for example, no consequences will appear. When the price auditor claims the wrong declared price form, he sets the correct price form and, according to that, a new price limit. Disastrous economic consequences arise if this limit is significantly lower than the offered price or even the occurring costs. The extra revenue has to be paid back and the goods and services must be delivered at the new maximum price.

What happens if the corporate contractor acts very often in this manner? It means that they are estimating with a payback. What happens if failures in declaring or calculating prices occur by mistake? Once it can be excused, but what if these 'mistakes' happen more often? Are these cases even subject of criminal law that can punish offences with imprisonment? At this point of the thesis, these questions cannot be answered.

What are the consequences if this strategy is performed subsequently in reality? This point should be part of further investigations, but is not treated exactly in the next sections.

4.2.3 Prime Costs Paid - Gaining Know-How

Development activities are cost-, time- and personnel-intensive. For companies it can be considered an alternative to develop new products in connection with a public project instead of developing products on their own. An aim can be to get at least the prime cost of a prototype paid and gain know-how on the other hand. As already explained in chapter 3.2.3, there is a difference between independent and contract sponsored equipment. This pricing strategy is intended for contract sponsored equipment.

For example, the integration of an additional air-conditioning system into a military vehicle is connected with prototyping and extensive tests. Military standards cover special requirements that cannot be realized easily. If a contract contains the development and prototyping of one car and the

customer fully pays the development activities, the intellectual property belongs to him if exclusive rights of use are contracted.¹⁹⁵ According to general terms and conditions for development contracts with industrial firms (Allgemeine Bedingungen für Entwicklungsverträge mit Industriefirmen - ABEI) a reimbursement of development costs occurs if the contractor sells the developed item or technology to a third party. Exact conditions can be found in §9 of the ABEI which are Annex T.¹⁹⁶ Müller came to the conclusion that only real cost sharing comes into question if a commercial use of the development result is intended.¹⁹⁷ Another way for corporate enterprises to gain know-how and rights of use is to participate in development costs. Rights of use can be determined in the according development contract. For more details about rights of use and formulation of contract clauses it is referred to specialized literature because of the complexity of this topic.¹⁹⁸

4.3 Customer's Demand

The customer's demand stands in the beginning of a business relationship according to Figure 15. The customer is in the position to get his needs serviced. On the other hand, he must invest the taxpayers' money in an economic and careful way. This can be carried out by competition on the supplier side in tendering procedures which are secured by law.

The most important element of a tendering procedure is the customer's product specification (Annex K). It leaves enough scope for the authority to lead a tendering procedure into a particular direction. If the authority announces a simple product specification, many companies will submit an offer and the most economic wins because of a good comparability of the offers' contents. If the product specification is too tough, only a few or not even one supplier submits an offer. In that case, competition is restricted and procurement procedures become more difficult because of extended development and production timeframes. But if the responsible authority describes the features of the desired product according to a certain supplier's product abilities, there is no chance for other suppliers to win the tender. In

¹⁹⁵ Cf. WINZER, W. (2011), pp. 235-236,248

¹⁹⁶ Cf. ABEI (2005), §9

¹⁹⁷ Cf. MÜLLER, R. (1993), p. 228

¹⁹⁸ Cf. GUTOWSKI, A. (1960), pp. 196-198; Cf. STOERI, F. (1979), p. 179

case of military vehicles to be procured, the product specification is very complex and detailed. Requirements on product quality and durability are specified as well as spare parts availability and the standards to be met. Not in every case is it possible to fulfill the customer's wishes. It is up to the customer to set elimination criteria in a product specification. For example, it was a requirement by a MBCG customer that a military vehicle must have the ability of 'deep fording': 1.4 m saltwater. If such abilities are drop out criteria, there is no chance to win the tender. It can be said that Daimler is willing to offer its products if there is any chance to win the tender. High adaption costs and the aim to gain economic profit forces Daimler to offer standard products, knowing the features demanded by the customer cannot be fulfilled in every case.

4.4 Corporate Portfolio

Every company has a product portfolio which is sold on the market. Specialized products or common marketable products can be offered. The profit for the sold goods and services should enable a company's economic existence. In case of Daimler, both product 'lines' are served to the customer. It is just a matter of the ordered car quantity and if specialization wishes are demanded. The standard products can be delivered in reasonable periods, at a fair price and always in the same high quality. Specialized products need more attention, especially in investing the limited human resources in development activities. Figure 19 shows exemplary products.



Figure 19: G-Wagon Series¹⁹⁹ and G-Wagon Customized²⁰⁰

¹⁹⁹ MBCG d), (2011)

4.5 Invention, Adaption and Existing Products

Most uncomplicated in product deliveries and price auditing are standard products. Processes are designed for a high volume output and extensively tested on process stability. Products are offered at list prices (Annex A). The basic vehicles as well as special equipment are offered in separate price lists. Every additional equipment offered fits perfectly to the related basic vehicle without any adaption or testing activities. Both basic vehicles and related optional equipment represent classic market prices.

If a customer wishes special abilities, it is first evaluated whether existing products can be adapted. For price auditing, these products are classified as derived market prices or modified market prices.

For Daimler to maintain technology leadership and to comply with national standards, it is necessary to invent new equipment or to improve existing technologies. The project's content is specified in much detail in specification books (an exemplary excerpt can be found in Annex E).

In any case, intellectual and material resources are tied up. Key measures in these projects are timeframe, cost and quality level. Furthermore it is important to consider price audits for the new prices generated. Only consistent documentation and evidence can secure that no problems occur during a price audit.

²⁰⁰ MBCG c), (2011)

4.6 Corporate Pricing Conditions - Price Modules

Corporate pricing conditions in B2G must comply with legislation. This means pricing conditions are regulated and limited by legislation. As described in chapter 2.4, price forms are the main issue of price law. The frame of corporate pricing conditions is represented by existing price forms as displayed in Figure 20.

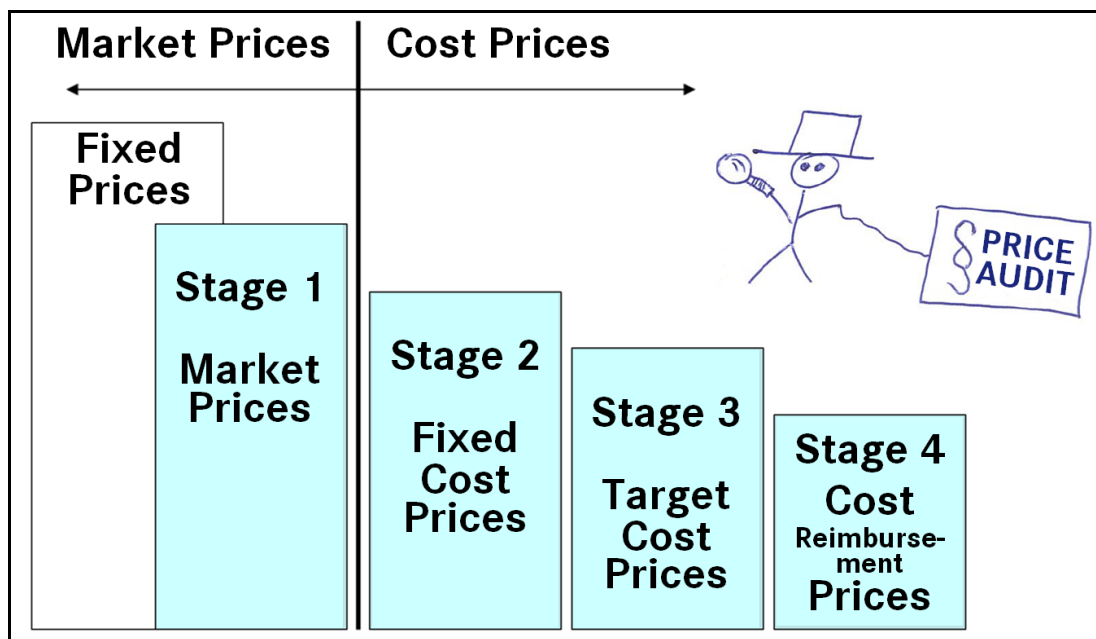


Figure 20: Rank Order of Price Forms²⁰¹

Within that frame, there are a lot more variants of price forms. The so called price modules represent price calculation positions with the following attributes:

- Formulation
- Price Form Classification
- Value

Each price module is classified with a certain price form. The sum of all price modules represents the components of an offered product, classified according to legislation. Price modules are described by the formulation and

²⁰¹ Cf. DÄUMLER, K.; GRABE J. (1984), p. 18; Cf. DAG a), (2010), p. 14

the price form. The value or price of a module is shown in the product price calculation.

For a better understanding of what price modules are, a practical example is shown in Figure 21. The hardware-related price calculation positions must be clearly identified and classified. This means the product is split into numerous price modules that receive a price in the product price calculation later on. Each price module in Figure 21 is applied with a formulation and a price form.

<u>Price Modules</u>	
Formulation	Price Form
Special Rear Seat	Cost Reimbursement Price
Basic Vehicle	Market Price
Winscreen Foldable	Derived Market Price
Flag Bracket	Fixed Cost Price
Indicator in White	Market Price
Special Tyres	Market Price

Figure 21: Price Modules of a Vehicle²⁰²

Market prices can be found in actual price lists. The so called individual or customized equipment can be priced on cost price basis. A subcontractor can be awarded with the production of individual equipment. In that case, the subcontractor's offer is considered in the price calculation with the offered costs plus the general contractor surcharge, which is explained in detail in the following chapters. Furthermore, the prices for services (no physical goods) must be calculated on the basis of fixed rates according to the pricelist for services of the Daimler AG (DAG).

The price calculation of new developed equipment is subject of the MBCG-calculation scheme (Annex C). This scheme contains corresponding profit rates. The considered profit rate allows companies an economic production, regardless of whether compliance with the so called most favoured nation clause is mandatory.

Maximum corporate economic profit is ensured by an optimized application of price forms. But a certain price form is not applicable for every price module.

²⁰² Cf. AUTOBILD a), (2007), <http://www.autobild.de>

One idea of this thesis is to answer if it is possible to use the pricing strategy 'refunding of extra revenue' in a legal way. This strategy implies that both price forms market or cost prices can be used for the same delivery content. The procedure can be called "different price module application". An approach to realize that idea can be to formulate a costing position in a way that each price form can be applied to it. This approach is an attempt to use the system scope. The system scope could be also called a system weakness but if it is up to the accountant's product formulation to apply different price modules to the same content, it is not illegal if legal prerequisites are still respected.

Before applying different price modules to identical delivery contents, it must be analyzed in each pricing case if legal prerequisites are fulfilled. Product prices or pricing scenarios are nothing else than a combination of price modules. For corporate business, the most economic pricing scenario must be found. Answers on this task are the key to economic success or fail of B2G-contracts.

Answering the issue to find an economic pricing scenario is object of the next chapters of this thesis. At this point it makes no sense to generate a theoretical list of possible price modules and pricing scenarios. The better approach is to introduce groups of price modules with the same characteristics. Moreover, price modules can be combinations of different price elements, so called variations of price forms. To get an overview of existing variations, a market and cost price based classification of price modules is presented in the next sections.²⁰³

4.6.1 Market Prices for Commercial Goods and Services

Prices for commercial goods and services can be divided into two variants. Prices for services of a common market are called actual market prices. And the second variant are prices for individual services with a market forming in the future, resulting from a competitive public procurement procedure.²⁰⁴ These variants are relevant for the verification of a market price in a price audit. Before a price is officially accepted in a price audit, both price variants

²⁰³ Cf. EBISCH, H., et al (2010), p. 50

²⁰⁴ Cf. MÜLLER, R. (1993), p. 41

must comply with certain characteristics. The price confirmation for individual services with a market forming in the future requires competition. The more competitors participate in a public tender, the higher is the chance that the market price is confirmed.²⁰⁵

4.6.2 Market Prices for Comparable Goods and Services

Goods and services must be essentially comparable to marketable goods and services under similar conditions. Deductions are to be carried out or surcharges may be applied to deviations from the marketable goods and services. Furthermore, this price module can be named 'derived market price'.²⁰⁶

4.6.3 Modified Market Prices

Prices can be lower or exceed stipulated market prices according to price law provisions. This happens due to particular contract circumstances resulting in warranted costs.²⁰⁷

4.6.4 Fixed Cost Prices

Fixed cost prices can be divided into two variants. Fixed cost prices without any other price element and fixed cost prices including market price elements.²⁰⁸

4.6.5 Target Cost Prices

If a fixed cost price cannot be established, a provisional cost price is installed. This provisional cost price can be titled as guide cost price or target cost price as well. Guide cost prices are to be converted into fixed cost prices before production comes to an end.²⁰⁹

²⁰⁵ Cf. ENGEL, C. (1983), pp. 47-48

²⁰⁶ Cf. VO PR 30/53 (1953), §4

²⁰⁷ Cf. MÜLLER, R. (1993), p. 61

²⁰⁸ Cf. MÜLLER, R. (1993), p. 67

²⁰⁹ Cf. VO PR 30/53 (1953), §6

Guide cost prices can be divided into three variants. First, target cost prices without any other price element. Second, including market price elements and third, target cost prices including fixed rates applied to individual areas of cost pricing calculations.²¹⁰ Fixed rates can be official hourly rates (as example for development activities as displayed in Annex D).

4.6.6 Cost Reimbursement Prices

The cost reimbursement prices may only be agreed upon if other prices cannot be determined in any way. First, cost reimbursement prices can be divided into three variants. Cost reimbursement prices without any other price element. Second, including market price elements and third, cost reimbursement prices including fixed rates applied to individual areas of preliminary cost calculations.²¹¹

There are a lot more price modules and variants if, for example, price restrictions are connected to fixed prices. Another possibility that generates more variants would be the application of price limits for cost reimbursement prices and target cost prices.²¹²

4.7 Pricing Scenarios for Corporate Offers

Pricing scenarios are simply a combination of price modules resulting in a product price. Strictly speaking, variations of price module combinations represent different pricing scenarios. Theoretically, every possible price module combination represents a pricing scenario. For example, when pricing a complex product, these circumstances lead to an unlimited number of different pricing scenarios.

It is not possible to create a manual that covers all applicable pricing scenarios for a specific and complex product. Rather, it is necessary to get a feeling for which costing position a certain price module can be applied and fulfills legal conditions. Depending on the pricing strategy, only a few pricing scenarios are really applicable.

²¹⁰ Cf. EBISCH, H., et al (2010), pp. 141-146

²¹¹ Cf. MÜLLER, R. (1993), p. 171; Cf. EBISCH, H., et al (2010), p. 147

²¹² Cf. EBISCH, H., et al (2010), p. 50

But when pricing a product, it is never an aim to get lost in paperwork by creating a pricing scenario, consisting of as many different price modules as possible. Imagine a price auditor checking evidence of a product price calculation. Concluding, when preparing evidence of price calculations, the focus is always on clear and transparent traceability of prices.

Pricing scenarios regarding the automotive industry are mainly based on one price form or price module. In general, only a minority of costing positions deviate from the declared main price form.

The most common pricing scenarios in automotive industry are presented in the next sections. They are structured according to their main price form.

4.7.1 Market Price Based Scenario

The market price based scenario represents a product price. The product price calculation mainly consists of market price modules. That means, for example, the basic vehicle and the majority of optional equipment chosen are market prices. If only one or a few equipment options are cost price modules, it does not influence the scenario declaration which is market price based. Rather it can be said, a product price is calculated market price based, containing cost price components.

4.7.2 Cost Price Based Scenario

Cost price based scenarios are the opposite of market price based scenarios. They mainly consist of cost price modules. For example, additional equipment that is contracted separately can be declared as cost price based. Even cost prices hold low priority within the rank order of price forms as displayed in Figure 20. They are practically relevant regarding defence contracts. Because of very specialized and customized goods, governmental competitive procurement is not possible in every case.²¹³

As for the automotive industry, it can be said that it is not expedient to calculate the whole product price on cost price basis. The possibility to price a vehicle on cost price basis exists, but a vehicle consists of more than ten thousand single parts. Even if a product price is grouped into a few price modules, they can be audited in detail which causes evidence and

²¹³ Cf. EBISCH, H., et al (2010), p. 25

administrative efforts that are not justifiable in an economic well working company. Practical experience has shown that evidence of a cost price based calculated product is a lot more detailed and complicated to comprehend than of market prices. This kind of pricing scenario is intended for optional equipment or product modifications ('add-on's').

The governmental award practice shows a tendency toward market price based contracts in the field of tendering procedures. Cost price based contracts are rather awarded within negotiation procedures.²¹⁴

4.7.3 Economic Comparison of Pricing Scenarios

An economic comparison of pricing scenarios should include different aspects. As already explained with pricing strategies, there are advantages for economic profit or gaining know-how. Economic profit can be relatively compared in different scenarios. But the advantage of gaining know-how may occur in the future by sold products and can be measured in lower quality costs, high production process stability or less personnel intensive production.

From the author's point of view, the economic comparison of pricing scenarios is limited to compare the amount of money paid after a price audit has been conducted. In the next sections, this approach is realized by describing practical pricing processes and generating two pricing scenarios for the same content. The simulation of a price audit results in the amount of money paid for a product.

²¹⁴ Cf. SULIMMA, M. (1991), p. 32

5 Testing of Pricing Scenarios at the Example of Mercedes Benz Consult Graz

In the beginning of this chapter, the structure of a standard product price calculation is described. All relevant price positions are explained in detail. MBCG-specific regulations are outlined in separate sections. On that basis, two product pricing scenarios are built. Both represent the same technical content. Depending on the chosen price form, the scenario prices will differ. The scenario testing is done by simulating a price audit. The test results show if the scenario approach was legally correct or not. Price cuts may be expected and will show in a relative comparison which pricing scenario is more economic.

5.1 Product or Project Price Calculating

Figure 22 shows a simple corporate business process in relation with an offered product price. In the beginning of the process stands the corporate offer. The submitted price is calculated according to corporate standards and made up of official list prices for the offered equipment only. The committed product content and price level will not be modified anymore during the standard process cycle. The mentioned value (125) is fully paid by the customer and can be considered in the corporate post calculation.

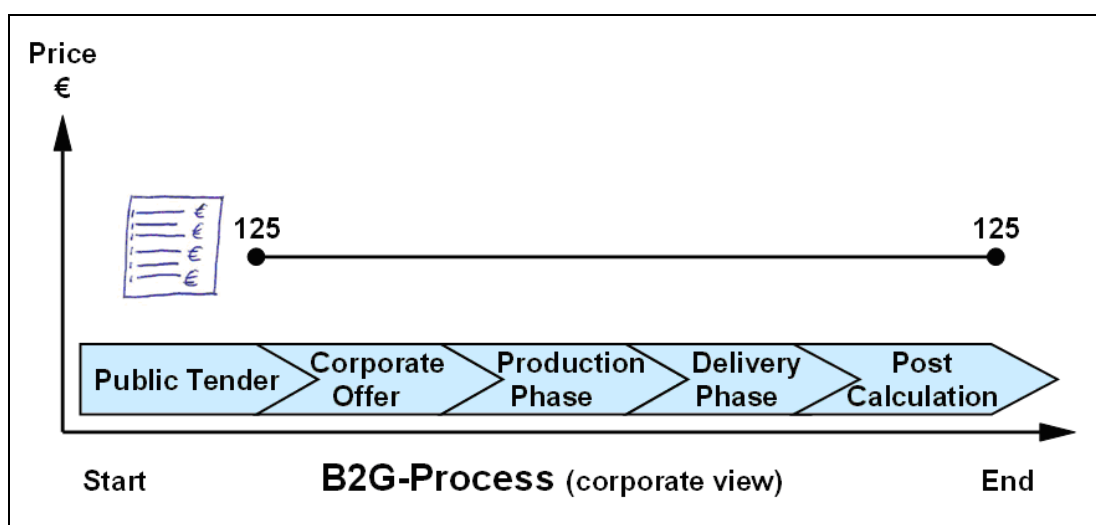


Figure 22: Price Effects in a Standard Business Process (own illustration)

The standard business process implements the regulations of Pricing Law Ordinance No 30/53. Special cases like project price calculations constitute a minority. Guidelines for Pricing on the Basis of Cost are mainly relevant for these special cases. A price audit regarding standard products has usually no effect on the submitted prices.

5.1.1 Price Calculation Structure

MBCG uses a specific calculation format for product price calculations. The calculation format follows a uniform pattern to allow comparisons. The structure of a vehicle's price calculation compliant to price audit specifications is as follows (divergent in level of detail, depending on vehicle configuration):

Hardware-related price positions:

- Basic vehicle
- Special protection equipment
- Optional equipment series
- Optional equipment special protection
- Optional equipment individually adapted
- Individual equipment, to be developed

Accounting-related price positions:

- NATO-discount for basic vehicle and optional equipment
- NATO-discount for special protection equipment
- Minimum-discount or absolute discount
- Quantity-discount (or scale prices)
- Transport costs (incoterms 2000)
- Other (preliminary design review, physical configuration audit, etc.)

Exemplary price calculations can be found in Annex U. They further show equipment descriptions and codes, price levels and discount percentages.

5.1.2 Classification and Characterization of Governmental Business

When offering a product, it must first be checked whether the customer has an governmental relationship. Responsible for the classification of governmental business is the sales department. Governmental related business at MBCG is cognizable by a marked customer request. It can be identified by an identification mark in the 'Anfrage-Für-Sonderfahrzeuge'-Workflow (offer details --> government business), as shown in Annex X.

The following corporate abbreviations are applied in the classification of governmental business (according to Daimler AG guidelines D 9.0 and C 115.0):²¹⁵

- G1 (corporate body under public law)
- G2 (government-related corporate body under public law)
- G3 (government-related, individual person)
- NR (non government-related)

5.1.3 Red Flag Situations

Bribery risks must be excluded in the course of a due-diligence-check. This is valid for subcontractors as well as for customer relationships. The following examples could cover red-flag-situations. They have to be verified by the sales department and monitored by all process participants. If red-flag-situations occur, they must be reported by the discovering department:²¹⁶

- business partner is the government or a government related party (direct or indirect)
- the country or industry has the reputation of being corrupt (like: military-, building- and transportation industry and oil companies)
- the business partner has established relationships to an official
- consultants are involved in the business
- the business relations contain complex sales or holding structures (tax haven)

²¹⁵ Cf. DAG g), (2006), pp. 1-13; Cf. DAG f), (2006), pp. 3-7

²¹⁶ Cf. DAG i), (2012)

- an official recommends business partners
- the business partner demands anonymity
- the business partner does not possess the necessary resources to achieve the intended business
- excessive or unusual methods of payment to business partner
- the business partner requests money to 'get the business' or 'make the necessary arrangements'
- the business partner refuses to certify compliance or is uncooperative during an audit
- the prospective business partner has been mentioned in press with negative reputation or past sanctions

When faced with these situations, it is necessary to seek guidance from the corporate compliance monitor. Every employee of DAG must report suspicious cases and receive consultation. The first person to be contacted is the local compliance manager (LCM) who then takes the necessary measures if required.²¹⁷

5.1.4 Sub-Contractor: 'Due Diligence Inspection'²¹⁸

Due Diligence is a standardised integrity check. To secure integrity in a first step, every business partner must undergo a due diligence review before entering a business relationship. This involves a method of checking all kinds of warning signals, 'red flags', that are obstacles to a business relationship. In this case, economic, legal and ethical aspects that could cast doubt on the integrity of potential and existing business partners are checked.

The compliance due diligence review offers advantages to both parties: Daimler AG and its existing business partners are backed up. Due to the integrity check, discernible companies without integrity get left out.

At Daimler, due diligence inspections involve two different checking processes: the Business Intelligence Service check (BIS-check) and the questionnaire-based integrity check. They provide information on whether a potential business partner has acted with integrity in the past.

²¹⁷ Cf. DAG j), (2012)

²¹⁸ Cf. DAG k), (2012)

Finally, this information is used to examine the business partner, paying particular attention to warning signals (red flags).

If warning signals such as unethical conduct in the past or signs of involvement in corruption affairs arise, they are examined, assessed and documented. After that, contract negotiations can be started. An exact process overview can be found in Annex Y.

All involved departments who are responsible for the business must carry on looking out for warning signals. When due diligence is carried out, all known signs of irregular conduct of the business partner or other warning signals must be communicated. In some circumstances, another check is required if indications of irregular conduct come to light. In this case, many further steps are necessary to be successful in business.

5.1.5 General Contractor Surcharge

In market prices, the proportional profit margin holds a merchantable size (calculation formula for extra equipment, mark-up pricing). In comparison with the cost price, only a small entrepreneurial profit is authorized.

The general contractor surcharge serves to cover the primary costs incurred in awarding contracts to subcontractors. It is applied in those cases in which the subcontractor's invoice is submitted by the main contractor without the standardized, fixed handling charges generally used to establish the market price.

The following is a list of the major primary costs incurred in implementing a subcontractor's agreement, which must be covered by the general contractor surcharge.

- Tendering procedure and mailing of specifications for the subcontractor's work and services
- Negotiations with bidders and placement of orders
- Invoice processing, accounting costs, costs of auditing invoices
- Costs of correspondence (reminder letters, issuance of notices of default, answers to letters from the contractor)

- Costs of controlling and inspecting the subcontractor's performance (instructions, meetings, inspections, acceptance of work as being in accordance with contractual requirements)
- Costs of reviewing and negotiating subcontractor claims
- Costs of experts and lawyers in the event of disputes with the subcontractor concerning their performance
- Documentation of correspondence and submission of planning documentation

5.1.6 Pricing Approaches for Market Prices

When new developed optional equipment or product lines are priced for the first time, there are two approaches for generating prices. The first approach is to set prices by management decision.

According to the strategic management journal, the price-setting capability within a company has three major components: identifying competitor prices, setting a pricing strategy and performing analyses of proposed prices.²¹⁹

Depending on the forecasting sales number and competitive price level, a price is estimated by the accounting and controlling department. Subsequently, the suggested price is presented and discussed with the board of management. The prices can be modified to reach a given return on investment or the prices are released without adjustment.

The second approach to set new market prices is to calculate them by the use of a standard calculation scheme. Prime costs without considering administration and distribution costs are added with standardized surcharges. The fixed surcharge percentages were estimated on the basis of controlling the departments' experience values and result in a list price. This price setting approach is mainly used when low sales numbers and values are expected or less complex products are priced. An exemplary equipment price calculation can be found in Annex C.

²¹⁹ Cf. DUTTA, S.; ZBARACKI, M.; BERGEN, M. (2003), p. 619

5.1.7 The Minimum Discount or Absolute Discount

The absolute discount is part of price calculations in public contracts. This requires an understandable granting of discounts by the following approach:

- Discounts as granted in the previous year form the basis for price reductions concerning public contracts in the next year
- On the basis of all price reductions of the previous year, an average discount value is calculated with the help of Gaussian distribution, taking into account the start and end of a production line; a drawn example of granted discounts is shown in Figure 23
- The average value constitutes the minimum discount

The minimum or absolute discount on a vehicle price can be granted as a percentage rebate or as an absolute value rebate.

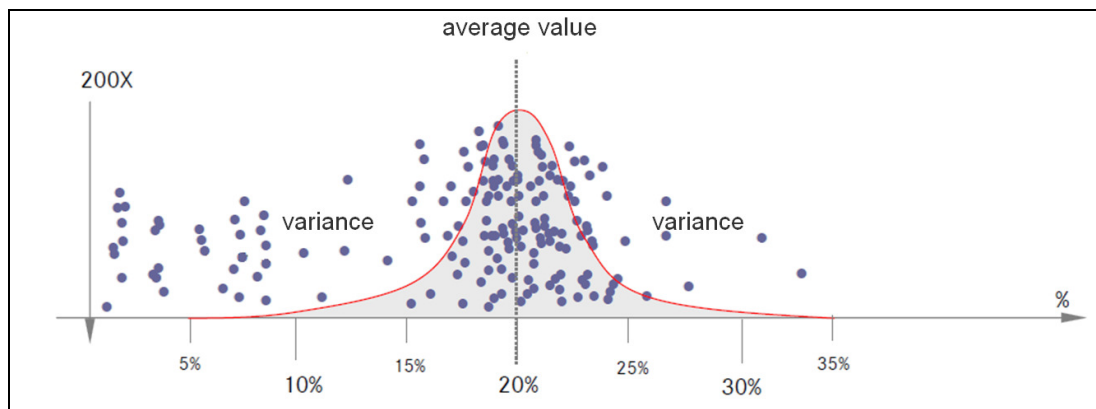


Figure 23: Discount Investigation - Reductions per Order and Year²²⁰

5.1.8 Relevant Documents in Governmental Related Businesses

All documents mentioned below must be retained according to the demanded retention period. This can be executed in an electronic way or in hard copy. The full verification must be possible at least till five years after vehicle delivery.

²²⁰ Cf. DAG a), (2010), p. 7

Documents related to series offers

The documents are generated in a chronological sequence and traceable in MBCG's systems or directly at the responsible department.

Relevant documents are:

- request for special vehicle (Annex X)
- price calculation (Annex U)
- offer (Annex I)
- price lists according to every price position applied in the price calculation (affects market prices only - Annex A)

Documents related to vehicles in stock

The common procedure of vehicle production on stock leads to a discrepancy in the document creation sequence. For serial vehicle production on stock, it is not necessary to generate detailed documents as recommended for a price audit (an offer is generated if there are concrete customer requests).

If a vehicle on stock has to be priced, the basis for a vehicle allocation is the chassis number. This chassis number gives information about the production number (serial number) and the order number. These numbers lead to the order documents "order of special vehicle (BFS)" and AFS.

As long as the vehicle on stock has never been offered to a customer, the following detailed documents must be generated: price calculation and offer. If the vehicle was retrofitted with additional equipment, the according subcontractor-payments must be considered.

Relevant documents are:

- request for special vehicle (Annex X)
- price calculation (Annex U)
- offer (Annex I)
- price lists (affects market prices only - Annex A)
- offers according to retrofitted equipment (Annex W)

Especially if vehicles on stock are offered to government-related customers, it must be focussed on a seamless documentation of every pricing sequence step.

5.2 Price Auditing at Mercedes Benz Consult Graz

MBCG's main objective in succeeding price audits is the complete acceptance and payment of the invoice amount and exclusion of repayments to a customer.

Usually this objective is achieved by using market prices when offering the G-wagon to customers (including military series).

When observing the price regulations, further objectives are achieved:

- no repayment after order fulfilment
- no price reduction before order completion
- securing compliance in combination with price law
- consistent pricing and cost documentation
- usage of pricing latitude permitted by price law

To achieve all these goals, it must first be secured that all relevant documents regarding government business are entirely existent and clearly traceable.

Price law questions have to be supervised in a business with government-related customers. The following checklist must be considered when calculating an offer (specifications by the sales department must be addressed to the quotation department):

- discounts specified in contracts and general agreements (such as specifications about the minimum discount)²²¹
- services done by a subcontractor or the general contractor ex works
- pricing and explanations of price forms
- price escalation clause (annual price increase)
- graduated prices
- price auditing rights
- most-favoured-nation-clause
- general conditions with further price relevance (warranty, funding, etc.)

This is the basis to successfully end up an initiated price check.

²²¹ Cf. DAG e), (2010), pp. 1-2

5.2.1 Verifying a Market Price

Verifying a market price is an integral part of every price auditing procedure. Each vehicle price charged to the customer can be verified by the auditor. That means unit prices are verified on their merchantability in detail.

In general, market prices are confirmed if they are part of an actual price list in use and the prove of common discounts is applied. This is achieved by presenting invoice copies of at least five comparable deals. The scheme of company-internal price calculations must be consistent.

Four important steps precede a positive price verification. These four steps are displayed in Figure 24.

If it is not possible to verify the merchantability of a price during a price audit, the price form will consequently be switched into a lower price form by the price auditor according to the price staircase.

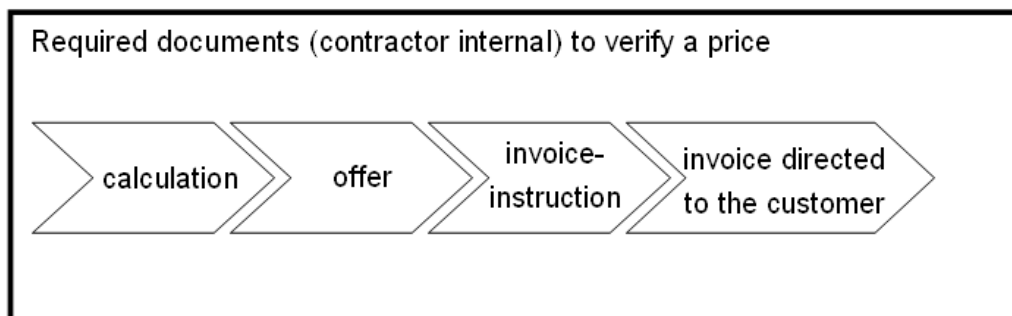


Figure 24: Price Verifying Process (own illustration)

Calculation

The offered vehicle price is broken down in the price calculation. The price calculation gives a detailed overview of a vehicle's price structure.

Every price position in use must be part of a price list to verify it as a market price. All relevant price lists must be retained and shown to the auditor on request. This includes price lists for basic vehicles, optional equipment and optional special protection equipment.

Offer

The offer is a full description of the scope of supply and services. An offer's scope can be split into serial equipment, optional equipment and equipment installed by subcontractors. It shows details about prices, options and the estimated delivery time.

Invoice instruction

The invoice instruction or checklist of the invoice gives information about the content of a customer's invoice.²²²

Every position on the invoice must be set with an according price such as serial equipment, optional equipment, discounts, services of subcontractors and transportation costs.

An invoice instruction is set by the sales department and forwarded to the accounting department. The accounting department prepares and directs the invoice to the customer.

Invoice directed to the customer

That kind of invoice shows the final amount charged to the customer. Optional equipment and its prices are shown in detail. DAG archives a copy of the original invoice.

5.2.2 Verifying a Derived Market Price

If a mix of complex optional equipment is combined, it might lead to additional adaption efforts. Those efforts can not be covered by the common charges within the price calculation scheme. To get these additional efforts paid, it is necessary to build a separate price position in the price calculation. In that case, requirements of a derived market price are fulfilled and audited.

As an example, the price calculation of a fictitious derived market price is shown in Table 6. Based on a regular market price, the gross margin of the equipment is determined. The identical gross margin percentage is added to the cost basis of the comparable equipment. The result shows the derived market price for additional equipment.

²²² Cf. DAG b), (2006), p. 3

Fire-extinguishing system for engine compartement	
	EURO
+ Market Price	75,000
- Costs	50,000
= Difference	<u>25,000</u> ~50% gross margin
Derived market price calculation: Additional function, 2nd time extinguishing	
+ Costs	25,000
+ Gross margin 50%	12,500
= Price of the additional function	<u>37,500</u>

Table 6: Calculation Scheme for Derived Market Prices²²³

5.2.3 Verifying a Cost Price

If it is not possible to verify a market price, a verification of primary costs has to be done. Especially service intense and complex equipment is hard to proof as merchantable.²²⁴

In fact, the verification of primary costs involves a major disadvantage:

The contractors profit is very low in comparison to the profit rate of a common market price. First, the affected positions of a price calculation must be selected. The proof is done by showing documents compliant to price law. Details about the calculation structure of cost prices can be found in Annex S, the guidelines of 'Principles of pricing on the basis of cost.'

To manage a positive price audit, it is necessary to prepare evidence about:²²⁵

- time sheets or performance record about in-house efforts
- performance record about development services
- evidence about removal of productive material
- invoices of subcontractors
- proof of the general contractor surcharge on invoices of subcontractors and productive material
- verified cost rates (objective: appliance of rates according to the 'pricelist for services of the Daimler AG')

²²³ Cf. EBISCH, H., et al (2010), p. 108

²²⁴ Cf. DAG b), (2006), p. 5

²²⁵ Cf. DAG c), (2010), p. 7

According to the pricing example in Table 6, the allowable cost price for the same content is shown in Table 7.

Fire-extinguishing system for engine compartement	
EURO	
+ Market Price	75,000
- Costs	50,000
= Difference	<u>25,000</u> ~50% gross margin
Cost price calculation: Additional function 2nd time extinguishing	
+ Costs	25,000
+ Profit margin 5%	1,250
= Price of additional function	<u>26,250</u>

Table 7: Cost Price Calculation (own table)

The cost basis of 25,000 EUR must be proven by evidence (the necessary extent mentioned above in detail). If the announced costs cannot be verified, they are lowered by the auditor to the proven level.

Only a consistent documentation leads to price audit success. If evidence is missing or not correct, prices are lowered and cause corporate economic disadvantage. Contracts the older they are cover a risk if they are audited. The necessary detailed proof must be identified out of several internal accounting systems which can cause problems if a change of systems is carried out meanwhile.

5.3 Scenario Product Content

The G-Wagon is the light vehicle of choice by military forces around the world and has been used operationally in peace-keeping operations. This operational experience has been incorporated in the design of the Light Armoured Patrol Vehicle (LAPV) to create a military off-the-shelf vehicle with enhanced survivability, unmatched cross-country driving performance, while preserving excellent passenger comfort. The LAPV is equipped with a protection level according to STANAG 4569 (Standardization Agreement).

The starting point to develop the LAPV was a demand of the Bundeswehr. Product specifications were announced during a restricted tendering procedure. In the first bidding round, different vehicle concepts were

presented by competitors. A few prototypes were produced and an extensive vehicle test followed by the Bundeswehr. Product optimizations lead to a final series development and the delivery of first customer vehicles at the end of 2009. Today this series product is presented and offered to military customers worldwide.



Figure 25: Light Armoured Patrol Vehicle²²⁶

For the pricing scenarios, an exemplary customer vehicle request of five cars is taken as basis. The demanded vehicles are defined as project vehicle at MBCG. That means the deliverable product hardware is not serial content only. The delivery content includes the basic vehicle and its series equipment and optional equipment plus specialized equipment. Technical adaptations have to be developed and implemented. Price positions must be considered for each equipment position. Moreover, governmental discounts and delivery conditions must be taken into account.

The pricing scenario is first executed on market price basis and then on cost price basis.

²²⁶ MBCG b), (2011), p. 1

5.4 Scenario 1: Market Price Based

The market price based scenario is the most common pricing scenario at MBCG. This scenario can be compared with a 'Top-Down' price calculation. That means every equipment offered is priced on a market price basis. If modified equipment is demanded, the price is derived from the market price. When there are doubts whether a pricing position can be classified as market price or not, the usual approach is to classify the position as a doubtless price module. This is not the most economic way.

At this point, scenario 1 executes the developed pricing strategy 'Refunding of Extra Revenue - Estimating Penalty'. That means every pricing position with market price characteristics is classified as a market price related price module, regardless of doubts.

If the auditor has the same doubts and he decides they are justified, it is in his power to accept the price module classification or not.

But applying this strategy does not mean that a pricing position without any market price characteristic is classified as a market price module. The classification is based on using the legal scope. It is up to the price auditors to decide whether the scope was interpreted correctly or not.

At this point it must be noted that any price auditing authority can be consulted by contractors for recommendations. If a corporate price classification is not clear or has reasonable doubts, it is the auditing authorities' mandate to assist in classifying an exemplary price module.

In scenario 1, the vehicle or equipment prices are always based on market prices. For the sake of completeness, exemplary cost price based positions may occur. In that case, the main declaration of a pricing scenario is not in question.

5.4.1 Product Price Calculation

According to the MBCG-specific calculation format, the summary of price modules leads to the product price.

The scenario must mainly comprise the following price modules:

- Market Prices for Commercial Goods and Services
- Market Prices for Comparable Goods and Services
- Modified Market Prices

The basic document for scenario project pricing is the AFS. This is a technical examination of customer demands. Based on the AFS-details (a screenshot of the workflow can be found in Annex X), a project price calculation is worked out by the accounting department and can be found for scenario 1 in Annex U. The price positions of the calculation are commented on in the next section.

The uniform calculation pattern starts with the headline - a short product specification and customer remark.

Hardware-related price positions

The first pricing position is the basic vehicle. In case of a LAPV-vehicle, it consists of a chassis and an armoured passenger compartment. The used price module is a market price.

The next pricing positions are optional equipment. They can be identified by a code (three digit level) and are market price modules.

Optional equipment for special protection vehicles is treated in the same way as the above mentioned standard optional equipment.

Individual equipment has to be implemented and has no code (e.g. position 'Fernbedienbare Leichte Waffenstation - FLW 100'). The price is calculated according to the standard market price calculation scheme and represents a market price module.

Another individual equipment is the price position 'padlock'. Because of an additional item, this price position must be classified as derived market price module.

Because of a huge variety of standard equipment and additional individual equipment, a test for technical compatibility and necessary adaption work must be performed. For this effort, a price position as market price module is applied.

For the necessary adaption work, no considerable separate price position can be applied because serial products are offered. In this project case, the adaption costs are not to be underestimated.

The summary of all mentioned price modules represents the standard product price.

Next, the accounting-related price positions are added. Both price categories added result in the product price for governmental customers.

Accounting-related price positions

The NATO-discount is considered for the basic vehicle and additional equipment. Special protection equipment is rebated too but with another percentage. Transport costs are considered without adding the general contractor surcharge.

Both price categories added result in the product price offered to governmental customers. This price is the contracting basis and is used for the price auditing simulation in the next section.

5.4.2 Price Auditing Simulation and Test Results

The price auditing simulation is conducted under legal aspects. Market prices are audited according to §4 of price regulation PR No. 30/53. The audit focuses on the marketability and commercial practicability of prices. A further aspect to be reviewed is if other customers hold a better position in terms of rebates. The exemplary audit results are without engagement and are based on the author's assumptions. The auditing aspects can be exemplary seen in an original audit project report as in Annex B.

The following price auditing simulation is structured in stages as displayed in Figure 26. Each stage is commented in the following sections in detail. Every request, statement or decision is based on the author's assumptions and was not double checked with an authorized price auditor.

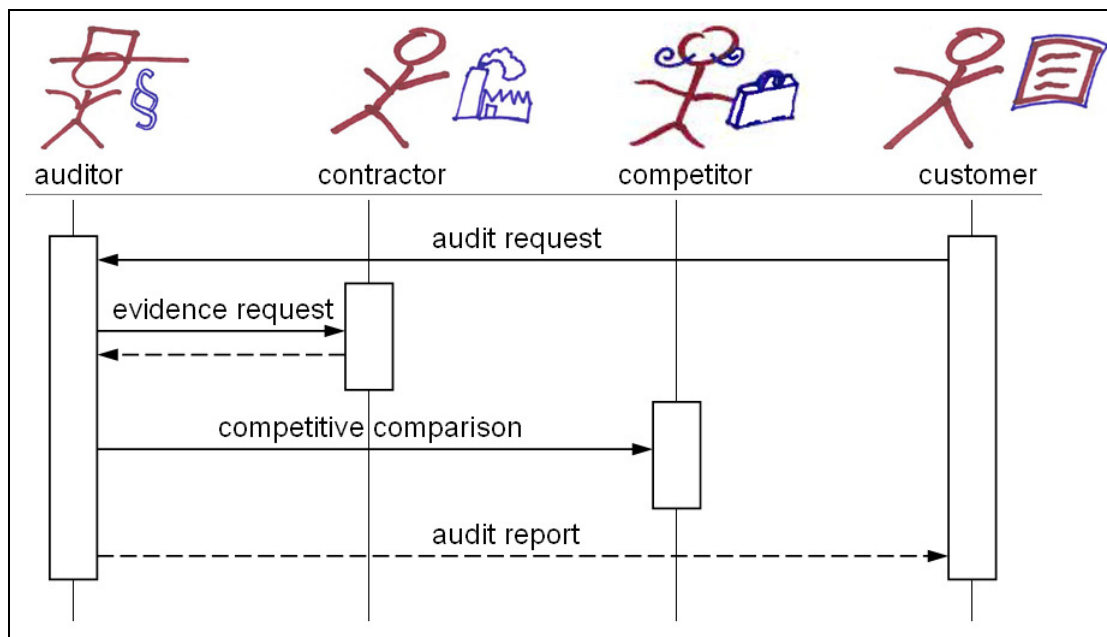


Figure 26: Stages of a Price Auditing Sequence (own illustration)

Basic vehicle

The price module "basic vehicle" is classified as market price and the price source is an official price list in use.

Evidence request

Auditor's point: the marketability of the new product must be evaluated.

Corporate statement

Due to the recent market launch, the market is growing. The pricing occurred during a restricted tendering procedure. Competitor prices are on the same price level, without knowing the exact prices offered by each competitor. From the corporate point of view, a particular market was forming due to the tendering procedure.

Competitive comparison

The auditor checks the corporate statement about the competitor's price level regarding four competitors as shown in Figure 27.

Audit report

Auditor's decision: the tendering competition guarantees the proper price occurrence. Additionally, the marketability can be assumed by the proof of an already realized governmental contract with comparative delivery contents (Annex J and Annex N).²²⁷



Figure 27: LAPV-competitors on the Market²²⁸

²²⁷ Cf. EBISCH, H., et al (2010), p. 99

²²⁸ MBCG b), (2011), p. 52

Optional equipment

The price modules "optional equipment" are classified as market prices and their price sources are official price lists in use.

Evidence request

Auditor's doubt about the adequacy of prices - massive price inflation.

Corporate statement

Due to military standard requirements, only certified high end components guarantee the necessary features. A cost calculation for the rear-view camera (Figure 28) is provided.²²⁹

Audit report

Auditor's decision: price confirmation. The prices of extra equipment are commercially practicable.



Figure 28: Rear View Camera Installed as Optional Equipment²³⁰

Individual equipment

The price modules "individual equipment" are classified as market price and derived market price modules. The prices are calculated according to the standard market price calculation scheme (Annex C).

Audit report

Auditor's decision: price confirmation.

²²⁹ This example shows the submittal of a cost calculation on a voluntary basis

²³⁰ MBCG a), (2011), p. 29

Adaption and development expenses

The price module "adaption and development expenses" is classified as market price. The price is calculated according to the official service price list (Annex D) under market price conditions.

Evidence request

Auditor's doubt about correct price form classification.

Corporate statement

Confirmation of auditor's doubt and submittal of the corporate prime cost evidence.

Audit report

Auditor's decision: wrong price form classification because the price module represents an individual service. The price position is only applicable to this individual contractual item. The correct price form is fixed cost price. The following cost price audit shows a higher expenditure of time as estimated in the beginning. Therefore, no additional payment by the customer is possible.

Accounting-related price positions

The price module "Accounting-related price positions" is classified as market price. The price is calculated by using standard rebate percentages.

Corporate statement

Submittal of evidence about the discount percentage granted.

Audit report

Auditor's decision: the granted corporate rebates correlate with rebates for other governmental customers, they are not in a better position than the actual customer.

The price audit simulation shows no price cuts or payback of extra revenues. Concerning the price classifications, one deviation occurred but it has no effect on the contracted value.

5.5 Scenario 2: Cost Price Based

The cost price based scenario is usually applied for specific customer demands. If equipment has an assigned market price, there is no chance to set a cost price for this equipment. That means it is practically not possible to classify every pricing position of the vehicle as cost price modules. The standard cost price based scenario always contains market price modules.

This scenario can be compared to a 'Bottom Up' price calculation. That means the majority of offered goods and services is priced on a cost price basis. Exceptionally, a few market price based price positions may occur. For instance, an individually adapted vehicle body has to be built in a special manufactory. In this way, the vehicle or equipment price is based on prime costs plus the gross margin. In case the pricing scenario contains market price modules, the declaration of the scenario is not in question. An exemplary report of a project price dialogue regarding a cost price based project calculation can be found in Annex E.

5.5.1 Product Price Calculation

The scenario must mainly consist of the following price modules:

- Fixed Cost Prices
- Target Cost Prices
- Cost Reimbursement Prices

Based on the AFS (it represents the technical examination of customers demands), the project price calculation is worked out by the accounting department and can be found in Annex V for scenario 2. The price positions of the calculation are commented on below.

The uniform calculation pattern starts with the headline - a short product specification and customer remark.

Hardware-related price positions

The first pricing position is the basic vehicle consisting of the chassis only. The used price module is market price.

The next pricing positions are optional equipment. They can be identified by a code (three digit level) and are classified as market price modules.

Optional equipment for special protection vehicles is treated in the same way as the above mentioned standard optional equipment.

The armoured passenger compartment or body of the vehicle is built in a manufactory as individual equipment. Because of that fact, the supplier's price is added to the general contractor surcharge and classified as fixed cost price.

Mounting the body on the chassis has to be done in another supplier's manufactory as individual service. The assembly price is based on the supplier's offer plus the general contractor surcharge and is classified as fixed cost price.

Individual extra equipment has to be implemented and has no production code. The price is calculated on the basis of known prime costs with the general contractor surcharge and is classified as target cost price.

Because of a huge variety of standard equipment and additional individual equipment, a test for technical compatibility must be performed. For these efforts and occurring adaption expenses, a target cost price position is applied. The price for the adaption work consists of a cost estimation plus safety buffer.

The summary of all mentioned price modules represents the manufacture product price. Next, the accounting-related price positions are added.

Accounting-related price positions

The NATO-discount is considered for the vehicle chassis and optional equipment only. Cost price positions are not rebated. Special transport costs are added to the general contractor surcharge.

Both price categories added result in the product price offered to governmental customers. This price is the contracting basis and is price audited in the next section.

5.5.2 Price Auditing Simulation and Test Results

The price auditing simulation is conducted under legal aspects. Cost prices are audited according to price regulation PR No. 30/53 and LSP. The audit focuses on correct corporate cost calculations and the reasonableness of costs. Market price modules are audited according to aspects described in

chapter 5.2.1. The following price auditing simulation is structured in sequences as displayed in Figure 26. Each sequence is commented in detail in the following sections.

Chassis of the basic vehicle

The price module "chassis of the basic vehicle" is classified as market price and the price source is an official price list in use for standard series products.

Evidence request

Auditor's demand: the respective price list.

Corporate statement

Submittal of price lists.

Audit report

Auditor's decision: price confirmation.

Optional equipment

The price module "optional equipment" is classified as market price and the price source is an official price list in use for standard series products.

Evidence request

Auditor's demand: the respective price list.

Corporate statement

Submittal of price lists.

Audit report

Auditor's decision: price confirmation.

Individual equipment

The price module "individual equipment" is classified as fixed cost price. The price is calculated according to the supplier's offers.

Evidence request

Auditor's demand: the respective suppliers' offers.

Corporate statement

Submittal of offers.

Audit report

Auditor's decision: price confirmation.

Adaption or development expenses

The price module "adaption or development expenses" is classified as target cost price. Prices are calculated according to cost price estimations plus safety buffer.

Evidence request

Auditor's demand: the respective cost evidence (such as time sheets and a list of travel expenses).

Corporate statement

Submittal of the requested evidence. The summarized value of cost evidence exceeds the cost estimation. The price was calculated according to the official service price list under market price conditions.

Audit report

Auditor's decision: price confirmation.

Accounting-related price positions

The price module "Accounting-related price positions" is classified as market price. The price is calculated by using standard rebate percentages.

Corporate statement

Evidence about the discount percentage granted.

Audit report

Auditor's decision: the granted corporate rebates correlate with rebates for other governmental customers, they are not in a better position than the actual customer.

The price audit simulation shows no price cuts or payback of extra revenues. Concerning the price module classifications, no deviations to legislative regulations occurred.

5.6 Relative Comparison of Test Results

The auditing simulation for both scenarios shows different contribution margins for each price module category. It is necessary to analyze the advantages and disadvantages of all price module categories, considered in the context of the specific project circumstances.

Next, a statement for common project calculations is deduced from the scenario analysis. The generation of an instruction of how to generate economically optimized project price calculations completes this chapter.

The comparison of the test results starts with a clear summary of price modules. The price modules are summarized in product categories and estimated in terms of cost and price.

In order to keep the overview simple and comprehensible, the author shows proportional costs and prices in Table 8 and Table 9. The exact real prices and costs can be found in Annex U and Annex V.

The reader should develop a feeling to assess pricing categories if they are of economic relevance for customer projects. For this purpose, the cost and price proportions are exaggerated in order to make it easier for the reader to identify the fields of action.

The estimated costs are to be understood as prime costs.

The estimated prices are official prices to be paid when a vehicle and equipment is purchased. Rebates are displayed as costs instead of negative prices. The contribution margin is the difference of prices and costs and covers the corporate indirect costs and profit.

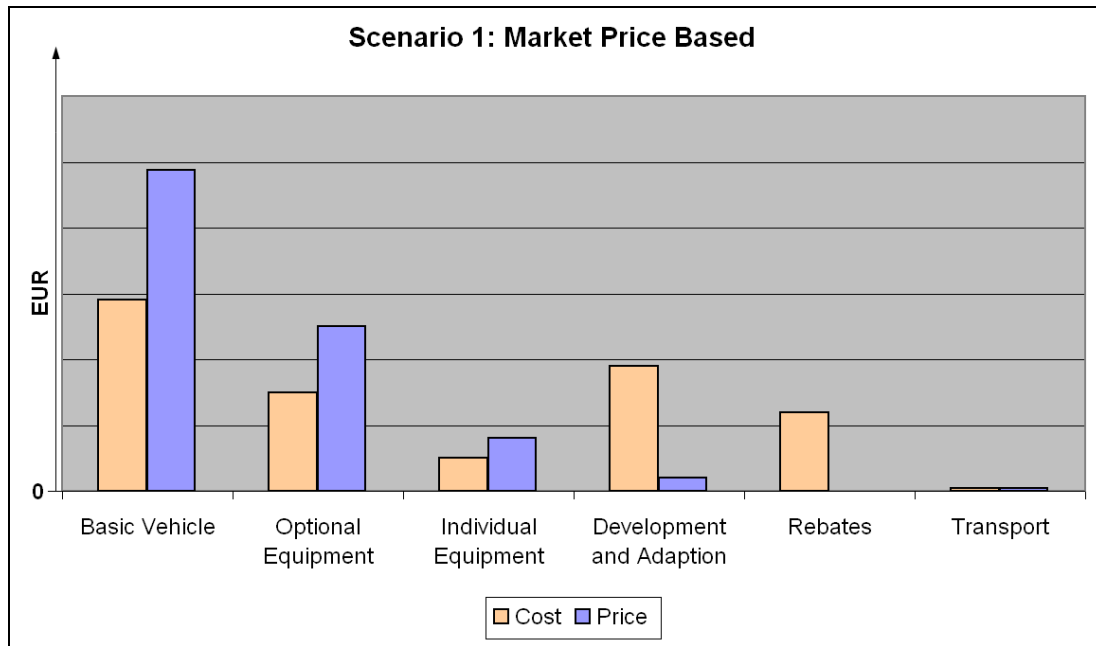


Table 8: Product Categories, Market Price Based Scenario (own table)

The evaluation result of scenario 1 shows a good contribution margin for the basic vehicle and equipment. The sources of the applied market prices are official price lists in use. Series equipment is usually offered for prices with an optimized contribution margin. That means series products are priced with a positive contribution margin.

The rebates to be granted reduce the corporate profit. The auditing focus is on an equal treatment of governmental customers. That means the rebates cannot be reduced or economically optimized.

The transport costs are not interesting in terms of economic relevance. Instead, they represent a transitory price position.

The economic result of scenario 1 would show a great contribution margin if not the prominent development and adaption costs would dramatically cut down the profit. This circumstance has different reasons: the assumed project volume comprises only five vehicles. The proportional cost allocation is significant per vehicle and comes at the expense of the contribution margin. If more vehicles were bought, the amount of cost allocation would decrease and show a better contribution margin per vehicle.

The expenses originally result from the specific project content. The customized composition of equipment and integration of individual equipment leads to expenses without a further use in other products or projects.

Because of the proposition in selling only marketable product content, the occurring development and adaption costs are disproportional. Only a small amount of the total expenses can be charged to the customer within a reasonable context. The rest has to be charged at the expense of the contractor.

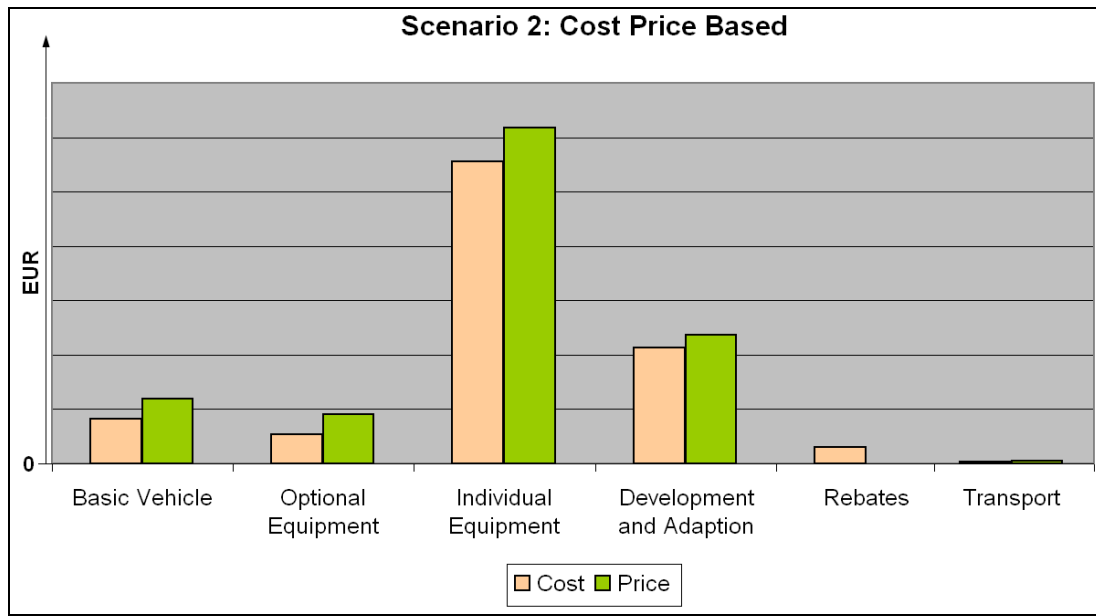


Table 9: Product Categories, Cost Price Based Scenario (own table)

As can be seen in Table 9, the evaluation result of scenario 2 shows a good contribution margin for the basic vehicle (only a chassis) and the optional series equipment. Both are market price based.

The individual equipment dominates the other product categories in value. This fact is caused by declaring expensive price positions as individual cost price positions instead of market price positions like in scenario 1. The contribution margin is proportionally lower than of market price modules.

The development and adaption expenses can now be fully charged to the customer. As a consequence, the same percentage of contribution margin as for individual equipment is earned.

The rebates to be granted only refer to the prices for basic vehicles and optional equipment. All other product categories are not to be discounted because they are declared as cost price modules which are non-discountable.

The transport costs still hold a transitory price position.

The economic result of scenario 2 shows a positive contribution margin in total. A better result is prevented by the limited general contractor surcharge.

Scenario 1 and 2 are now assessed in terms of profitability of each product category.

The following relative comparison of both scenarios in Table 10 gives information on which scenario is the economically better choice for the assumed project content.

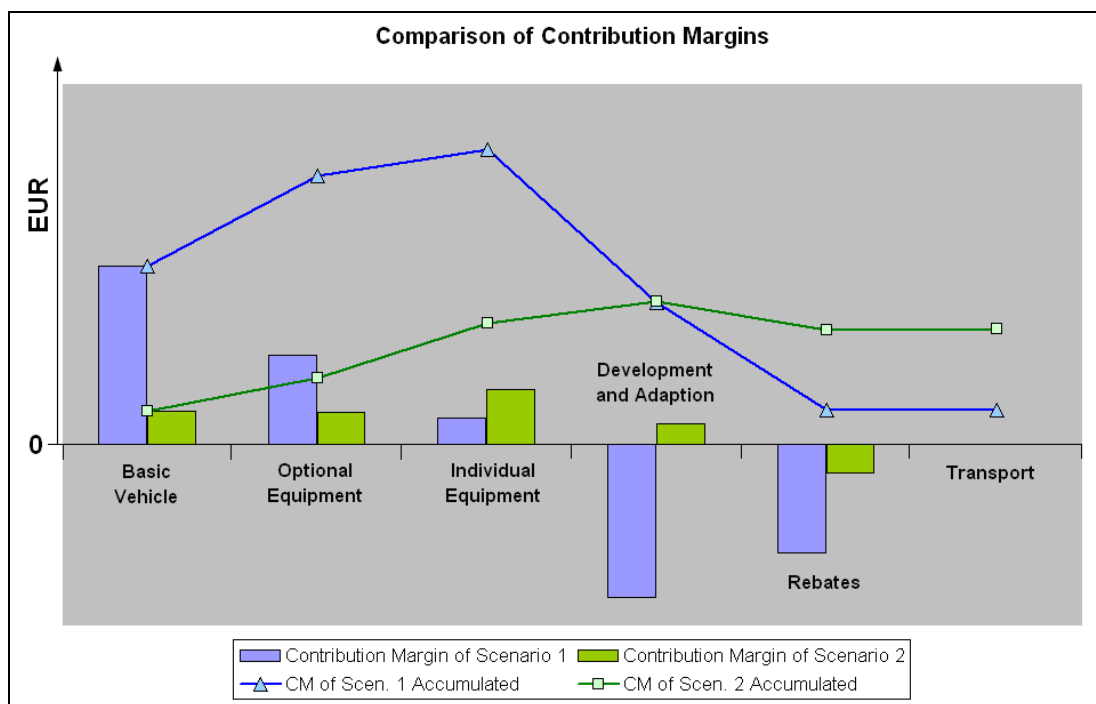


Table 10: Comparison of Scenarios' Contribution Margins (own table)

The audit simulation shows relatively high contribution margins for market price modules in scenario 1. But on closer examination, they massively decrease due to the applied rebates.

On the other hand, the constant but lower contribution margin of cost price modules limits the project profitability of scenario 2.

Scenario 1 shows one main disadvantage against scenario 2: the majority of development and adaption costs cannot be charged to the customer. This fact causes a conspicuous negative contribution margin for scenario 1 and shows up clearly when comparing the accumulated contribution margin of both scenarios.

In the end of the result comparison of the audit simulation, scenario 2 shows a proportionally better contribution margin for the chosen specific LAPV-project.

Both scenario simulations describe customized project content. The scenario auditing simulation clearly shows which product category causes massive contribution margin differences.

As a last theoretical project example, the same scenarios are compared in Table 11 without considering development and adaption expenses. In terms of a delivery content without customized product features, the sold product represents a standard series delivery content. Standard product content cannot be classified cost price based because every product category is sold at market prices. Market prices take precedence over cost prices.

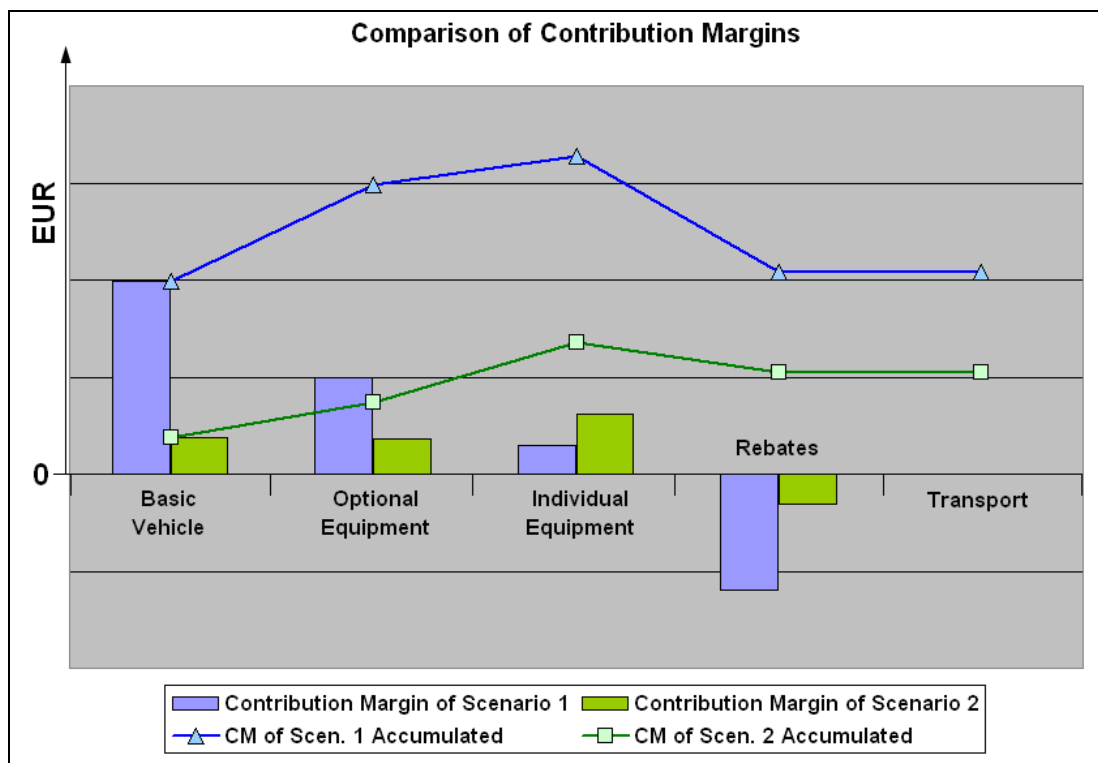


Table 11: Contribution Margins without Develop. Expenses (own table)

When comparing the accumulated gross margin of both scenarios, scenario 1 shows a significantly better result. A conclusion that can be drawn from this scenario comparison is that governmental authorities educate contractors to offer goods and services at market prices only (if possible). For specific individual pricing problems, the scenario comparison is the best approach to find out the economically better pricing choice.

6 Summary, Conclusion and Outlook

The first question sought to answer with this thesis was: is it possible to gain a remarkable competitive advantage by optimizing corporate processes in B2G? The existing legislative scope enables pricing possibilities that have never been tested before in practice. Can the application of these pricing possibilities lead to additional economic benefits? Answering those questions lead to a variety of tasks that were carried out step by step.

The intention of price law had to be understood from governmental point of view and in connection with corporate view. A fair payment for contracted goods and services after a price audit had to be secured. Price audit consequences had to be clear and unexpected penalties avoided in order to raise the corporate financial planning reliability. Preparing activities for price audits had to be minimized. The development of new pricing strategies for specific customer projects including development and adaption expenses had to be focussed on. The testing of these pricing strategies was conducted under the aspect of how to behave and participate as responsible corporate contact. A price audit simulation of exemplary, complex pricing scenarios was conducted. In the end, an economically optimized pricing scenario had to be applicable in real customer projects.

The approach started with describing essential terms of governmental procurement. A comprehensive perspective about procurement of different nations and other institutions lead to the detailed German procurement process. All involved processes in B2G were elucidated. The process interactions and sequences of procurement, pricing and price auditing process were explained. An optimized corporate pricing process was elaborated under aspects of price auditing authorities' powers and audit consequences. On the basis of developed pricing strategies, exemplary pricing scenarios helped to test the theoretical assumptions. Demonstrative graphics clarified the complex subject and simple examples built a connection for practical application.

The result was the development of three different pricing strategies, each applicable for specific corporate purposes. Every strategy can be implemented in pricing scenarios. Based on an individual customer vehicle project of MBCG, two exemplary pricing scenarios were created and tested. The audit simulation shows a project-related result. In order to develop a commonly applicable pricing scheme, the test results have shown that it is

not possible to create a generally applicable standard price calculation. In fact, the economic result depends on the situational project content. Depending on the sold vehicle quantity, development and adaption expenses massively distort the project's profit. In awareness of these circumstances, the price module classification of product hardware categories must be conducted. Economic success depends on a correct estimation of price module variations. The optimum price module combination for a specific customer project can be proven by comparing different scenarios. The scenario comparison clearly shows which price module classifications have to be optimized for gaining a better project contribution margin. For example, the focus in a scenario simulation is drawn on profit-influencing price module proportions. Experienced accountants draw attention to essential product categories. The developed pricing strategies open up new possibilities to re-classify certain price modules to optimize corporate profit.

A critical option is the strategy 'refunding of extra revenues'. Especially when development and adaption costs are classified as market price modules. The accountant usually has to consider these expenses as fixed cost price modules. If the value of this product category is disproportionally high in comparison to the original product category it is - from the author's point of view - unethical to conduct a wrong price module classification. It was not part of this thesis to find out if this plan of action is illegal or justifiable.

An aim of price audits is to protect governmental business from corruption. With the help of price checks, the governmental authorities confirm that the contractor's execution of public contracts was done in a proper legal way. The actual budget problems of individual European states make the situation worse. Saving money will become the primary governmental objective in price auditing. Maybe new European regulations will be created or national price law will be reformed in order to save costs.

In the author's opinion, the focus should lie on a fair business process for both parties the contractor and the customer. An idea to realize these thoughts could be a fourth pricing strategy that was not addressed in this thesis: the strategy of 'cooperation'. Based on showing understanding and trust, all involved entities work together and discuss their intentions. In the end, consensus building under ethical aspects stands above different forms of cheating.

List of Abbreviations

ABEI	'Allgemeine Bedingungen für Entwicklungsverträge mit Industriefirmen', general terms and conditions for development contracts with industrial firms
AFS	'Anfrage-Für-Sonderfahrzeuge', request for special vehicles
AG	'Aktiengesellschaft', corporation
AGD	Armament General Delegation
B2G	business to government
BFS	'Beauftragung für Sonderfahrzeuge', order of special vehicle
BHO	'Bundeshaushaltsordnung', federal budget code
BIS	business intelligence service
BMWi	'Bundesministerium für Wirtschaft und Technologie', Ministry of Economy and Technology
BWB	'Bundesamt für Wehrtechnik und Beschaffung', the Federal Office of Defence Technology and Procurement
CFB	call for bid
CPM	customer product management
DAG	Daimler AG
DIU	Defence Industry Undersecretariat
DMI	'Durchführen-Mitwirken-Informieren', execute, contribute, inform
EBB	Electronic Bulletin Board
EDA	European Defence Agency
EU	European Union
EUR	Euro
FAF	Federal Armed Forces
FLW	'Fernbedienbare Leichte Waffenstation', remote controlled light weapon station
GPA	Governmental Procurement Agreement
GWB	'Gesetz gegen Wettbewerbsbeschränkungen', German Act Against Restraints of Competition
HGrG	'Haushaltsgrundsatzgesetz', German Budget Law Policy
LAPV	Light Armoured Patrol Vehicle
LCM	local compliance manager
LSP	'Leitsätze für die Preisermittlung auf Grund von Selbstkosten', Guidelines for Pricing on the Basis of Cost
MBCG	Mercedes Benz Consult Graz GmbH

List of Abbreviations

NATO	North Atlantic Treaty Organization
NDLO/MI	Norwegian Defence Logistics Organization/Material Investment
NRF	NATO Response Force
PD	Price Department
RACI	Responsible Accountable Consulted Informed
SDMA	Swedish Defence Material Administration
SFR	Swiss Francs
STANAG	Standardization Agreement
TAF	Turkish Armed Forces
UOR	Urgent Operational Requirement
VgV	'Vergabeverordnung', Regulation on the award of public contracts
PR 30/53	'Verordnung PR Nr 30/53 über die Preise bei öffentlichen Aufträgen', Regulation PR No. 30/53 on Pricing in Public Contracts
VOB	'Vergabe- und Vertragsordnung für Bauleistungen', guidelines for building contracts
VOF	'Verdingungsordnung für freiberufliche Leistungen', Conditions Concerning Contracts for Freelance Supplies and Services
VOL	'Vergabe- und Vertragsordnung für Leistungen', guidelines for goods and services
VOL/A	VOL part A
VOL/B	VOL part B
WTO	World Trade Organization

List of Legal Determinations

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as amended on 1st January 2012

Verordnung über das öffentliche Beschaffungswesen (VöB) 1995, SR 172.056.11,
as amended on 1st August 2010

b) German Legislation

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