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Teaching Public Management: Between Academic Disciplines

A Teaching Methodology for Students in
Economics and Business Administration

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Introduction

Different challenges in Europe, but also in the US and Japan, such as ageing societies, deficits in public budgets as well as globalisation, the strengthening of international organisations, etc. are among the reasons why public management has risen to the spotlight (Pollitt, Bouckaert 2011:8). The reforms of the 1980s and early 1990s tended to fragment public sector organizations, producing fewer large, multi-purpose organisations and more single- or few-purpose organizations, each pursuing more explicitly defined sets of goals and targets (Bouckaert et al., 2010). These tendencies show that the typical understanding of how to teach public sector issues in the fields of public finance, economics and policy requires a somewhat different approach, looking more towards the internal structure of the government. This instructional material is an attempt to try to conceptualise how public management could be taught for students of economics and business administration with the help of means familiar to them from their fields. Therefore, it is quite a different approach from the field of public administration. In addition, as public management has been taught in different countries very differently (Kickert 2005), we have attempted to join here the continental tradition with the Anglo-American approaches, which has not been an easy task, so we have to admit that the first approach still dominates.

Public managers require different knowledge and skills, which can develop during the university study programmes. For example, the competence model for Estonian top public officials stresses the following skills and qualities: reliability, dedication, management capabilities and focus on citizens; capabilities of legal awareness, strategic management and policy design; skills for the management of people, resources and processes; cooperation, network creation and communication capabilities; and finally, skills for self-management¹. By collecting some of the above and being more specific (similar to Powell et al. 2014), we have agreed that the general learning outcomes of public management teaching should aim to teach the future managers:

1. To lead and manage public organisations (bureaus and enterprises)
2. To participate in and contribute to the process of public policy
3. To analyze, synthesize, think critically, and solve problems
4. To articulate a public service perspective
5. To communicate and interact productively with the workforce and citizenry

We have applied in this instructional material teaching methods that help to achieve these aims. The teaching activities, together with questions and exercises, are presented in special sub-chapters. We have collected some summarizing questions for assessing the declarative knowledge but have also included exercises and other assignments (including some “fieldwork”) for applying the concepts in theoretical and practical problem-solving. As the managing competences are relevant, special attention is paid to the teamwork activities during the study programme. We include in the programme formal lectures as well as the introduction to the concepts, discussion of short cases and exercises. The interactive (or participative) lectures are not described in greater detail; only the topics and some specific exercises are presented. The lecturers are encouraged to use the materials presented in Bligh (1998), Exley, Dennic (2004), Gibbs et al. (1987), Huxham (2005) and Morss, Murray (2005) to learn how the lecture can be made more effective.

Participants will be expected to study all assigned materials (given in sub-chapters called Readings for Students) and to complete specific homework assignments prior to the class meetings. The lecturer will normally devote a part of each lecture or seminar to the discussion of the homework

¹ The model in Estonian is available at: <http://valitsus.ee/et/riigikantselei/avaliku-teenistuse-tippjuhid/avaliku-teenistuse-tippjuhtide-kompetentsimudel>

assignments. The objective here is to clarify and elaborate on certain concepts because of their special relevance or difficulty. In particular, participants are encouraged to ask questions and to request that particular points be explained in more detail if they remain confused or uncertain about specific items.

The structure of this material follows the same pattern for each sub-chapter. First, the specific learning outcomes in connection to the general learning outcomes listed above are given for each sub-chapter. Thereafter, the content of the concepts that need to be discussed in public management is presented. However, it is only a very short description of the content and not a material ready for use as a textbook. The purpose of this material lies rather in the collection of ideas, models and theories useful for teaching public management for students in economics and business administration. In addition, when we have found that sufficient coverage of the topics is given in existing textbooks, we have not repeated this material, but rather suggested it for reading. Teaching public management for students from other fields can be also considered to be based on this material, but this requires a more graphic and intuitive approach, and in this case formal analysis needs to be avoided. The content is followed by a reading list for students, teaching activities, assessment requirements, assessment methods and respective questions, exercises and assignments that serve as examples.

The content is organised as follows. The first chapter tries to answer the question how to join different scientific perspectives in teaching and learning public management. Thereafter, the microeconomic foundations of public management are given, which connects microeconomics and business economics to the public management field. The macroeconomic foundations of public management connect fiscal policy and the effects of revenues and expenditures, public activity in sectors, etc. Teaching management concepts for the public sector draws a link between the management and organisation theory fields and discusses how different management concept can be applied in the public sector. Teaching public sector reforms comprises functional and territorial reforms by joining the traditional background of fiscal federalism, to location theory and principal-agent approach. The reader will find in the beginning of each chapter how different topics are related to the specific and general learning outcomes that we aim to achieve.

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1. Public Management as a Subject in Economics and Business Administration

Specific learning outcomes of this chapter:

- The student understands the importance of public management and the use of different approaches to analyse it (contributes to general learning outcomes No 1 & 3)
- The student can articulate a public service perspective of public management in general, but also more specifically with regard to the public offices and public enterprises (contributes to general learning outcomes No 4)
- The student understands the spheres of activities of public offices and public enterprises (contributes to general learning outcomes No 1)

1.1. The Aspects of Public Management

Public Management concerns a goal-oriented organisation and control of the public administration. It is an interdisciplinary theory (see Rutgers 2010) which systematically examines the public sector from an economic, social science and psychological perspective, taking into account the legal conditions. This general description and definition is elaborated and discussed later. It deals with the public sector institutions and investigates them from different aspects – legal, sociological, political and economic aspects.

For the analysis of public administration and also in order to solve management problems, the **legal aspect** is of high importance. Public administration and public sector institutions have to follow the principle of legality of public administration as these must not only find compliance within the public sector, but also in the relations and actions to private legal persons. It comprises the principle of the primacy of law stating, that issues that are regulated by a certain law are not allowed to be decided differently. Due to the principle of law-based management an administration may act either not at all or only on the basis of a statutory power (Mayer 1923: 69). As the management of public administration applies do's and don'ts to steer private and public legal persons, legal knowledge is one of the bases of public management. Acts of public management are often debated with respect to their lawfulness. Legal discussions influence the debate on the organisation of the state and the basis of public, constitutional and administrative law.

The knowledge of law is one of the preconditions of successful public managers. They should possess the knowledge about the existing laws consisting of constitutional norms, customary law, formal laws, legal ordinances, administrative rules and customs, and court decisions. Investigations of existing administrative law analyse whether the existing law conforms to the ruling principles of law and whether these laws correspond to actual situations. Sometimes, what follows is the need to discuss changes in public and administrative law (Wolff 1971: 18; Bachof, Stolper, Wolff 2007). Therefore, students of public management have to study the basis of public law to understand and use the prevailing legal language in public administration and to formulate management decisions and perform actions lawfully. Modern public management considers not only the other aspects besides the legal aspect related to traditional administrative tasks and to new tasks, but also to the progress in administrative sciences (Luhmann, 1966; König 1970; Reinermann 2000).

The growth of tasks leads to a higher staff level and an increase of human relations and networks within the public sector (Herzberg 2013). Therefore, the growing division of labour within the public sector and the reshaping of public offices extend the networks and human relations. The human relations of staff members, members of other public and private organisations, to families etc.,

increase. Other human relations expand because of the additional new tasks emerging, for example, in the processes of an aging society. Sometimes, in some countries, indirect human relations exist if public officials form models of behaviour for other professionals or if public managers try to imitate private ones. Such human relations are under research by sociologists (Fichtner 1970; Münch 2004; Treibel 2007) as sociology deals with the human society, human relations and social behaviour. Public administration activities cause changes of human relations or deal with the intervening and controlling of such relations. Such kinds of changes are part of social processes to be studied as they influence or are influenced by social groups and institutions, e.g., public offices and parliaments, but also co-ordinating councils. With public management and administration, it concerns the goal system of public offices, social dependencies between public offices and their social environment, the survival will of an organisation and the cohesion of its members (March, Simon 1958; Parson 1961; Etzioni 1961; Mayntz 1963; Grey 2004; Preisendörfer 2005; Donaldson 2010).

For public administration, it is important to know under which conditions public offices can achieve their aims. One of the aims is the exercise of power (Weber 1956, 1964), while others deal with services. The power bureaucracy in use is investigated also by sociological analysis. The features of bureaucracy are monocratic line and guidance, hierarchy, division of powers, official channels, written rules, supervision, division of labour and specialisation, impersonality, authority in a fixed area of activity, and accountability. Moreover, bureaucratic officials need expert training, rules are implemented by neutral officials, and career advancement depends on technical qualifications judged by organisations, not individuals (Weber 1956, 1964). On many occasions they fit to the organisation and coordination of public offices. For them, sociological analysis deals with their goal setting processes, dependences between public offices and environment, dependencies among the features of bureaucracy, staffing and career advancement, management styles dysfunctions, administrative conflicts and possibilities of decision-making, and also power for action of public officials (Mayntz 1963, 1978; McCurdy 1972; Eichhorn, Friedrich 1976, Roppel 1979, Frey, Kirchgässner 2002).

As politics refers to goals, decision-making and respective actions to design awareness and issues important for the survival of the community, **political aspects** are relevant for public management (McCurdy 1972; Luhmann 1966; Mueller 2003; Smith, Licari 2006; Bernauer et al. 2009). For political scientists of public administration and management it is interesting how public offices are involved in the realisation and achievement of political goals, how they influence the determination of goals and decisions, and how pressure groups influence the activities of public offices. Such dependences also get described by the explained positive theory or designed normative analysis. As mentioned, securing power is an important goal that affects the tasks of public management, the structure of public offices and the public sector, and the administrative processes. The actions of the administration on political target-setting outside of the administrative bodies can take place in the framework of the legislation or within government and administration. Of interest are the kinds of goals (vote maximisation, support for groups, etc.), the values of public officials, their political party or group membership, the structure of deciding bodies, the decision-making procedures, the leadership and coalition formation, and information management in the public sector. For decision-making in public management, scopes of discretions, available decision and action alternatives and co-determination play a role. By the implementation of decisions the performance strategies of public offices influence the goals' fulfilment. Political impacts on public management stem from parties through staffing policy, from associations (pressure groups, lobbying, actions in hearings), from other public offices as well as from other jurisdictions (e.g. through supervision, grants), and from courts (constitutional court decisions). Political conflicts among public offices and their jurisdictions determine public management as well. The political aspect in decision-making is of high relevance also for the economic analysis of public management (Eichorn, Friedrich 1976; Mueller 2003; Menzel, White 1011).

As human decision makers and public officials are involved in public management, **psychological aspects** have to be considered as well. Psychology is the science of human behaviour and its causes or in short the study of human mind and behaviour (American Psychological Association 2014). Therefore one needs to explore how the wishes and desires of public officials (security, reputation, income, etc.) influence their activities (personal style, experiences, aspirations), their personal goals (willingness to work, preservation of aquis, career advancement) and their dependencies on incentives and possibilities of motivation.

Psychology focuses on the behaviour of human beings and its “internal” reasons. As public offices are run by many public officials involving numerous staff and many clients and persons in private and public economic units are in contact by the operations of public offices, **the psychological aspects** of public management has gained in importance (McCurdy 1972; Kelman, 2005). For the staff, it is the questions of their needs, wants and desires concerning security, self realisation, independence, reputation, esteem and the hierarchy of these needs. Moreover, the influence of personal style, aspiration levels, experiences, expectations on activities to fulfil these needs, but also personal aims related to creative actions, working attitude, keeping possessions and statue. Psychologists analyse problems of motivations for public service and incentives by education and advancement, changes of positions, social and monetary rewards, but more recently also personality related issues having genetic backgrounds (de Moor et al 2012).

The reaction of staff members on success and failures, stress, anxiety, conflicts and conflict resolution are under investigation. Their willingness to adapt to changes or their resistance to changes and reforms constitutes an important topic. The conditions for motivation changes of public servants with respect to colleagues, the guiding management, and the administrative environment are explored by psychologists. They also try to detect the capabilities of public officials to deal with information, their individual decision-making, and their problems in conflict resolution.

Conflict resolution among several public officials and decision-making and cooperation in groups of public officials and among public managers is under debate. To achieve insights, psychologists focus on the behaviour of group members, the relations between individual desires and goals of the group, the behaviour of managers, and the developments of norms and values within that group. Individual and socio-psychological analysis concerns the interaction between public administration and its environment. The results of psychological research are applied to improve the work climate, the style of management, the allocation of competences, the assessment of confidential reports and the qualification tests for hiring staff. The education with respect to administrative careers and training of civil servants show psychological aspects.

Pedagogical aspects (Zippelius 1973, Powell et al. 2014; Peters 2014) are of high importance as public management involves different public tasks. Their fulfilment requires a lot of different professional knowledge and training in the mostly legal language, which public servants need to know in order to communicate, to create, coordinate and to interpret and perform laws legally. Therefore, the education of public officials and their training is of considerable importance for sufficient public service comprising street workers, soldiers, medical staff, policemen, teachers, scientists, and clerks of public enterprises, etc., and millions of employees.² Educational challenges

² In some countries special careers exist for public servants, e.g. in Germany, a basic civil servant where a primary school education and a professional or an administrative apprenticeship is necessary. A middle servant career needs a primary or secondary final school examination, an administrative apprenticeship, a profession and a special preparation service or introductory time. The upper servant needs a school examination, which allows study at colleges and studies at internal administrative polytechnic colleges or external polytechnic colleges which includes a successful examination there, and then a preparatory service of two years or an introductory service. The highest career needs a scientific University masters degree, and a special vocational

stem from the requirements to provide task specific knowledge, an appropriate knowledge in law and the impartment of public service ethics and responsibility and a job description on non-corruption and motivation to create, but also to lead, manage and communicate with citizenry and workforce. A balance between theoretical and analytical capacities and practical experience has to be achieved through education and training. Vocational training, educational job rotation, legal training, and training in public management tools are essential and cause educational challenges. Education itself is an important field of public management.

Philosophical aspects concern the ethics of public administration, the role of state in human society, its position and role in the light of different ideologies and religious beliefs. Its features, its nature, and the functions of administration are analysed and lead to theories about the tasks, the necessities and the limits of public administrative activities (Zippelius, 1973; Willke 1992). The development of administrative problems, the way and volume of administrative operations in the course of time, their historical classification, their experiences and reforms, and the significance of administration for society development point to the **historical aspects** of public management. As all administrative operations happen at locations and concern moves, flows and stock change in and among administrative districts, we are also confronted with **geographical aspects** (Wagener 1969; Friedrich 1976; Thisse, Zoller 1983; Drezner, Hamacher 1992) as well. The regional order of jurisdictions, public offices and their vertical and horizontal relations leads to a special subfield related to the geography of public administration.

As the administrative tasks are extremely manifold the administrative management success depends on many disciplines from military sciences, communication sciences and natural sciences like medicine, architecture, electronics, biology, technology, aviation and civil engineering, etc. Therefore, **other aspects** than the traditional ones mentioned gain in importance.

The **economic aspect** concerns arrangements and operations to provide the human society with economic goods to satisfy the needs of their members (Schneider 1967). Arrangements comprise activities and their results. Economic goods are scarce, technically appropriate to serve the fulfilment of goals, and accessible such as material goods, e.g. equipment, buildings, financial means, but also immaterial goods such as services and rights.

Public administration and its offices possess economic goods, are organisations as they are established by members of the society or institutions, and provide goods through their operations to their environment. The activities are based on managerial decisions on goods and scarce resources in order to provide goods to a public administration, e.g. public office, to other public offices or to third economic subjects to perform the administrative tasks. This decision-making concerns the main **economic aspects** of public management. The decision-making relates to the following **questions** (Eichhorn, Friedrich 1976):

- (1) Why are economic decisions of public offices on economic goods necessary and which are the tasks and goals of public administration?
- (2) How has it to be decided on goods and service (e.g. how to produce services (by which production techniques); and using which goods and factors of production (e.g. labour, equipment)?
- (3) In which economic units and where (e.g. which location, which institution) and by whom the decisions on economic goods and services take place, (e.g. governments, public offices, managers, etc.)?

service of two years ending with a second University state examination where examiners are University professors and high ranking public managers. There are general administrative services oriented and special task oriented careers with jurisdictions, e.g. federations, states and municipalities.

- (4) How should the timing of the decisions be planned and controlled (e.g. when should services be provided and the appropriate decisions made)?
- (5) In order to evaluate the desired or realised results in terms of goal achievement, how do the decisions influence the activities of a public office, other public offices and other economic units outside public sector?
- (6) As there are many decisions to be made, how should they be coordinated (e.g. through commands and orders, through negotiations, through markets)?
- (7) How are the decisions of public managers and those of private economic units coordinated (e.g. through subordination, through negotiations or through markets)?
- (8) What are the effects of decision-making of public management on the production in the whole society (e.g. economy, and on the distribution of private and public wealth)?
- (9) How do the use of economic goods by public administration and the provision of goods by public administration influence the growth of public production?
- (10) How should public management decide to achieve special economic situations in society, (e.g. full employment, stabilisation, allocation of goods, support for special groups of society or for economic units in distressed areas, etc.)?

The questions numbered 1, 2, 3, 4 and 5 especially are dealt with in **business administration** or the business-oriented public management. There the shaping of individual economic plans that contain management decisions mostly of single public offices is analysed. **Economically oriented public management** focuses on questions 1, 5, 6, 7, 8, 9, 10 where the coordination among single plans or aggregates of such plans and coordination of aggregates like groups of public offices, jurisdictions with their public offices, coordination with aggregates of private economic units (e.g. enterprises, households) are under discussion. Therefore the economic aspects are business administration oriented ones and also micro and macroeconomic ones.

However, the economic sciences have not dealt intensively with these aspects. **Business administrators** – many times private business oriented – sometimes discuss whether public administrations are part of their scientific objects and how public administrations can be characterised as economic units. Some questions concerning procurement (tenders), production (labour management, electronic production and information management), delivery (fees, crediting, and compulsory delivery) and finance (credit, taxation, property management) as well as planning and control get discussed. Business administrators deal with quantitative management tools such as budgeting, investment accounting, accounting, network analysis or qualitative techniques to detect ideas or to describe situations and developments (scenarios, indicator analysis). They also discuss concepts of public management (e.g. the Harzburg model, Management by objectives, Planning – Programming – Budgeting System, Zero-Base-Budgeting, Sunset Management, XYZ Management, New Public Management, Cooperative Management, Management by Tasks), but often they concentrate on the transfer of knowledge about managing private firms to public administrations. The tasks of public administrative units are also under discussion; however, a well developed subject of public administration oriented business administration is still lagging and also urgently needed.

The **economics** also focuses only partly on public administration. The micro economic aspects of single public offices and their coordination are not treated intensively. The production processes within a public office and the production network among budgetary offices are mostly not under investigation. Sometimes measures of governments and their jurisdictions and their effects especially on private economic units are analysed, but mostly not with respect to the participation of single public offices. Therefore **economists** offer an incomplete description, ex-post analysis and economic theory of public administration and management. The smallest institution dealt with is mostly a jurisdiction like a municipality and not a public office. **Public finance** mostly concentrates on fiscal coordination among jurisdictions in the framework of fiscal equalisation or budget coordination. In public finance there is a considerable amount of literature on the effects of the decision of governmental public managers considering taxation, public debts, grants, property and real estates,

fees, expenditure, staff employment, public investments, subsidies and their impacts on the private sector, private enterprises and households. As economists prefer to apply market oriented tools of analyses, the effects within the public sector where non-market coordination prevails are not of prior interest. Also the literature on the theory or performance of public policy widely excludes the participation of public offices and the importance of public management (e.g. the organisation of labour administration to achieve higher employment, the role of public offices in enforcement of inventions and innovations, etc.). As far as economists consider public management they concentrate on governmental, top-level decisions, mostly leaving out the decisions on a directory or low rank administrative level.

Literature from the business-oriented public management point of view and of the economic oriented public management point of view exists about **public enterprises**, their forms, tasks, goals, operations, impacts, coordination etc. Here the analysis seems simpler as more market directed traditional tools of business administration and economics-oriented analysis can be applied. However, when considering the **number of governments**, the 28 EU national member states, the many sub-states in some EU member countries and the many local governments, the thousands of public enterprises and millions of public offices, the public sector shares in employment, the public sector share in investment, the size and share of public production, the expenditure and revenue volumes it is astonishing that not more priority is given to public management in research and teaching.

The situation is **improving** as the business administration analysis and the economic analysis is going to be extended. To enrich the theoretical work, hypothesis stemming from the other aspects are introduced such as legal requirements for management decisions, or hypothesis of the management behaviour from sociology and psychology, the political decision-making rules (e.g. voting in decision bodies) from political sciences. Also, the goals of public offices are determined covering sociological, political, legal or psychological aspects. Restrictions that the public managers have to consider stem from legal, political, sociological and psychological, technical and other requirements. Moreover, non-market oriented coordination analytical methods such as game theory, network theories, and statistical and econometric descriptions get applied. But we are calling for even more teaching and investigating this highly important and interesting phenomenon of public management.

1.2. Approaches to Analyse Public Management

A traditional approach comprises the **administrative and governmental doctrine**. It deals with a comprehensive and differentiating description of public administration and its activities (Lorentz von Stein 1865-1868; Thieme 1976; König, Siedentopf 1997; Becker 1999; Püttner 2000, Franz 2013). Scientists using this approach deal with the history of thought of administrative doctrine and of public administration, the position and functions of public administration within the state, the delineation of administration (execution) in relation to legislation and justice, the relation between administration and law, the autonomy of public administration, the public service (public officials and employees), the types and sectors of public administration and their production, the control of economy by public administration, and the relations between public administration and groups of society. The general doctrine of public administration deals with problems of all public administrations. Special doctrines of public administration deal with special public administration problems of sectors such as military administration, security administration, health administration, forestry and agricultural administration, foreign affairs administration, transportation administration, labour administration, church administration, etc. or EU, central state, provincial and sub-state or municipal administration. The knowledge accumulated is important for the decision-making of public managers and to analyse the economic units of the public sector and their impacts. The analysis is

mostly descriptive or based on experience gained from public administrative operations, decision-making on the basis of administrative work methods and legal limitations, the respect of existing administrative conditions, considering only the direct impacts of public management and the application of hypothesis from other sciences if unavoidable. Apart from the descriptive administrative doctrine, attempts exist to formulate an administration policy that wants to determine how public management should shape public administration. The latter one is mostly connected to other disciplines, e.g. when determining administrative goals with politics, economics or law.

An extension of the administrative doctrine offers the **government doctrine** that concentrates on governmental decisions of public management. Here the functions of government get discussed. The governmental doctrine focuses on government that means top-level administrative decisions. The special tasks of government are discussed and analysed to find which influences they underlie (Ellwein 1966). The government doctrine focuses on government plans and programmes, the organisation of governmental bodies of central state or sub-states, the tasks of the government and the ministries, relations between government and parliament, the relations between government and other parts of public administration, and the government style. On the one hand the concept of government doctrine is narrower than that of administrative doctrine, but on the other hand the government doctrine incorporates the findings of politics and of economics as well.

Both doctrines provide a lot of knowledge important for public management decision-making, but do offer a general theory of public administration although attempts are on the way to integrate hypothesis of the different sciences like law, politics, sociology, psychology, economics and other sciences as well as using more common definitions to achieve more precise implications (Püttner 2000a).

In the 1970s much hope for progress was related to the application of **systems theory** (Parsons, 1951; Luhmann 1966; Meffert 1971). A system consists of a total set of elements which are related to each other. These relations cause some special features of the total set of elements. Three types of system theory approaches applied to public administration were developed. A **general system theory** identifies the basic structures of scientific disciplines such as law, sociology, politics, economics, etc. to develop a common language, for example for analysis in administrative science. This is of some importance for public management as the different disciplines of administrative science and the hypothesis developed there might be more easily integrated. However, this cannot be a main approach of public management teaching and studying. Another approach concerns the **structural functional system theory** that relates primarily on relations between elements which allow that the system controls itself. From that theory, for example, agent-based models are developed showing how the patterns of behaviour of agents produce complex adaptive systems (Schelling 1978; Axelrod 1997; Miller, Page 2007). There are two main streams of application with respect to public administration according to which are the elements of the system.

Luhmann (1966) has chosen as elements **the administrative activities**, which are connected and tried to show how they differ from activities outside in the environment of public administration. The environments are defined politics, the public, but also public managers. The administrative system should enable binding decisions. Luhmann points to many features of administrative management as its dependency on politics, the relations of public administration to citizens, to public administrations' capabilities to adapt to environmental changes, methods to make decisions more simple, control possibilities, the importance of routines, features of administrative organisations, participation of public officials, the importance of the time factor in public administration, definitions of efficiency of public administration and development of categories of administrative performance. The approach offers some general guidelines how to shape public management, but is not able to

relate to the empirical research (King, Thornhill 2003) and model specific decision in situations the management of a public office might be confronted with.

One may also characterise as **elements the employees and managers** and the public offices. If also machines, equipment and other factors of production get defined as elements so-called man-machine models can be elaborated. They describe the interchange between the elements and the outcome of the system. This approach comes nearer to the description of the economic problems of public management. However, the analyst must know the relevant administrative and economic questions and he has to possess an exact knowledge about the dependencies between the elements, e.g. with respect to coordination, scopes of decision makings, technical relations, and budget procedures. Moreover, what often happened within the elements is a so-called black box, e.g. the personal goals of public officials. To formulate an efficient system, public administration needs a lot of information and knowledge, and this is not yet available.

With respect to partial systems that may illustrate some administrative procedures, the **cybernetic system theory** approach might be adequate to model formally public management decisions. They are dynamic systems where the relations between the elements show time lags in reactions. They offer the possibility to describe the behaviour of the system in the course of time. Cybernetics deals with the control, the regulation and adjustment of a dynamic system by interventions to achieve a desired situation of the system. The regulation comprises an action of a system element against an occurring interference. A feedback takes place when an element reacts on the action of a causing element. The purchase of equipment may illustrate such a situation. The purchase committee and the construction office of a municipality might have developed an efficiency description for a project that shows the technical and legal requirements of the equipment to be bought. It serves as a target value. An adjusting body, e.g. the construction office, determines an adjuster, which shows the conditions and requirements of the municipality and comprises a tender to compete for delivery. Interferences may stem from illegal pricing, etc. After having received the offers they are treated according to the adjustment stage by opening the offers at a specified day. Then the target value is compared to the offers and if there is no deviation the supplier awards the contract. If the tender was not successful a new target value may be determined. Modelling such public management choices needs exact information and very clear cut fixed decision rules, e.g. with all offers satisfying the target values choosing the cheapest one. However, the public managers have scopes of decision-making and for evaluations that makes the cybernetic formulation difficult. Moreover, dynamic systems lead easily to complicated mathematical formulations especially when more than one lag occurs, which is normally the case. Differential and difference equation systems have to be solved for the many times no solutions exist, approximation solutions must help or heuristics and simulations should assist to describe the systems behaviour.

Only in **rare cases** can a powerful cybernetic formulation of a public management problem be offered. Therefore, many systems' approach applications end up in a description of elements and relations in a system, which does not provide much progress in the analysis. Often, a new language for description of public administration is offered. This can be many times gained more easily by the administrative doctrine approach. The advantage in teaching public management is by highlighting the administrative procedures.

The **administrative behaviour approach** (Simon 1961; Gawthrop 1970) deals with the behaviour of individuals and groups within organisations and the formulation and achievement of goals of their members. Behavioural analysts suppose that the success of public administration depends on forces that depend on the personality of public managers or officials and of their relations to other human beings and their reactions. Formal limits of decision-making by legal requirements, procedures of voting and decision-making, formulated agenda or available resources are of minor interest. The analysts focus on relations between guiding management and executive staff determined by

psychological and sociological facts such as the willingness to cooperate, strive for acceptance, and fear of sanctions. The willingness to achieve goals of the administration is dependent on the relations to other employees as the readiness to compromise, a reduction of tensions, motivation (Perry et al. 2010). Therefore, the behaviour of public managers turns out to concentrate on partial, short-term and changing decision alternatives and not always looks for the best possible solutions.

However, the **administrative behaviour approach** does not consider internal and psychological processes within a human being, e.g. the formulation of needs and goals by an individual person and it neglects many legal and economic aspects. A consideration of these aspects would explain how economic decisions in public management concerning economic goods would influence the behaviour of public officials and managers and which repercussions are to be expected on decision-making.

The **decision-making approach** refers to decision-making in public administrations. A decision concerns the choice among alternatives to achieve goals under consideration of possible risks and the willingness to realise it. As decision-making in this sense is the main task of public management it is closely related to public management activities. A positive analysis demonstrates how public managers decide and a normative one determines how public managers ought to decide.

Moreover, the **descriptive research** on decisions and the prescriptive research are of high importance. One has to describe decision situations and ask why, how, where, e.g. in what public office, by whom and when are decisions made. **Descriptive psychological** studies concern the goals of public managers and to what aspiration level they want to achieve, and why public managers want to decide. They also turn to how to decide, how decision problems get formulated, how information is gathered, the influence of new appearing alternatives, the evaluation behaviour and the learning capacities of the public managers. Psychologists organise experiments in groups and look for the influence of the character of decision makers on decisions.

Political descriptive analysis shows political goals and types of political administrative decisions and how decisions depend on voting systems, power distributions, voting programs, etc. Decision-making in bodies of public management, in deciding bodies like a city council, a parliament and a coalition formation gets tackled. Lawyers use descriptive methods when preparing and formulating laws or if they have to relate a case to a regulation.

Economists investigate **descriptively** types of decisions, e.g. on investments, decision cases, many different financial, sector, regional, project, development plans or they describe the decision in several types of public administration, single public offices, groups of public offices belonging to a jurisdiction, of an administrative sector like schools, in centrally or decentralised organised administrations and short, middle and long-term decisions.

The **decision theory** uses probability theory, game theory and quantitative management tools such as business-oriented investment accounting (e.g. present value method) or economic oriented investment accounting (e.g. net-benefit analysis), as well as methods of operation research to detect and explain optimal decisions to achieve administrative goals. These decisions may serve the achievement of various administrative goals or the welfare of the whole society. The decision-making approach allows to integrate many aspects and is especially oriented to public management decisions.

Also with respect to public management, researchers try to gain insights by comparing and benchmarking public offices, administrative sectors, the activities of jurisdictions etc. especially of different countries (Heady 2001) in the frame work of the **comparative public administration approach**. Forms of governments, groups of public offices, sectors, and the structure of jurisdictions

get compared. Also among EU member countries those comparisons gain importance because of the introduction of joint regulations and still existing different forms of law and administrations. The benchmarking of public offices gets performed between the public offices of different government levels, between sectors and between individual public offices or within jurisdictions and their public offices. The comparisons may address forms of law, staff employment and respective laws, professional ethics, but also finance or development of resources and capacities, service volumes etc. Comparisons can be made to identify the problems and features of public management less considered or one compares public administrations with respect to predefined research questions. As they are mostly related to the other approaches the public administrative comparative approach is more of auxiliary importance especially for the decision-making approach.

Table 1 Dependence between aspects and approaches

Aspects Approaches	Legal aspect	Sociological aspect	Politics aspect	Psychological aspect	Economic aspect
Administration and Government doctrine	Big	Middle	Middle	Small	Small
System oriented approach	Small	Big	Middle	Small	Small
Behavioural approach	Small	Middle	Small	Big	Small
Decision oriented approach	Middle	Small	Middle	Small	Big
Comparative approach	Small	Middle	Big	Small	Middle

Source: Eichhorn, Friedrich 1976

Public management is mainly oriented to the decision oriented approach as will be explained later, and the economic aspect plays a big role. This book concentrates on the respective row and column highlighted in **Table 1**. The table also firstly shows the consequences for teaching in public management.

1.3. Definition and Kinds of Public Administration Units

According to the aspects and approaches mentioned many different definitions of public administration or an administrative unit can be found. The approach followed and the criteria of classification applied are shown in **Error! Reference source not found.** also points to the variety of anagerial decision-making issues. Very common are the following definitions:

Legal definitions:

- Institution which belongs to the executive power of governance
- Institution that deals with the controlling, planning, realisation, monitoring and auditing
- Institution of public law

Sociological definitions:

- Institution where bureaucracy prevails, showing hierarchy, routines, fixed ways of communication up and down the hierarchy, the responsibility of staff members, monitoring and control
- Institution which serves to govern
- Institution that serves the class of capitalists in the public sector

Economic definitions:

- Federal, state and local governments
- Non-governmental institutions of public law
- Public firms

- Institutions having a public budget

Administrative science definitions:

- **Apart from the previous applications of the definitions one finds** descriptions such as public bureaus, public agencies, public offices, special public offices such as ministries, directives, public firms, legal entities of public law.

In **public finance**, the concentration is on governments and public households especially if they are financed through taxes, fees, sale of property, transfers in the framework of inter-governmental fiscal relations.

All definitions do not come up to the needs of a microeconomic coordination theory of the public sector and of dealing with public management there. Therefore, we have to define a proper microeconomic public entity similar to a private firm or a private household.

The economic approach and decision oriented analysis of public management need the determination of a public economic unit administration, where public managers take decisions or for which they make decisions. Such an economic unit – economic subject - has for reasons of analysis or practical management an economic plan that comprises all decisions made. Other economic units are private enterprises or private households. This definition of a public economic unit can be as follows (Eichhorn, Friedrich 1976):

- Public administrative units (public offices) attempt to achieve **public goals by providing goods** to other economic units (e.g. private households, private firms, public firms, public administrative units). They have a **public owner**, they possess the **long-term stock of production factors** and their management is competent regarding the **essential decisions** related to production and delivery.
- They comprise **legally dependent** institutions (gross public offices) fully **integrated** into the **budget planning** (e.g. ministries, directories, courts, parliaments) but also **public enterprises**.

Gross administrative units (public offices) are totally integrated in the budget planning process. They appear with all their receipts and expenditures in the budget, e.g. central government: ministries, parliament, directories, courts; local government: city administrations, local safety.

Net administrative units are not part of the governmental budget planning process. They are shown only with their financial net result in the owner's budget such as profits, losses, grants, and financial transfers to the owner. They are public firms, e.g. public universities in Estonia, agencies for special purposes, e.g. real estate, public firms such as postal services, public housing firms, public utilities, ports, schools, etc. Public enterprises are separated from their public owners' budget planning (net public offices). They are integrated partly into the market coordination and are operating under public and/or private law.

Both types of public administrative units must have the following features to be treated as an economic unit in economic and business administrative unit in public management if economic decision-making is to be analysed.

- A **Public Administrative Unit** possesses two spheres of activities. One relates to activities to produce goods and the other one relates to financial issues. Within the first sphere the procurement section deals with the purchase or delivery of production factors to the public administrative unit (partly free of charge). The technical production takes place in the production section whereas the supply of goods and services to other economic units (sometimes free of charge) is the duty of the delivery section.
- The activities in the spheres serve the **achievement of public goals**. The public administrative unit and its assets are at least partly in public ownership - mostly a territorial jurisdiction or a personal jurisdiction such as a social insurance body.

- To **distinguish from other public administrative units** with the same owner (e.g. jurisdiction) two additional conditions have to be met:
 - Some factors of production, e.g. buildings, equipment, have to be allocated to the public administrative unit as an institution for a longer time.
 - Scope of the decision-making of managers of the public administrative unit should allow for decisions concerning production and delivery to clients.

There is a hierarchy among gross public administrative units:

- Top administrative units: ministries, high courts, headquarters of public trusts, parliaments
- Middle administrative units: directories
- Low administrative units: public offices, agencies, departments

With respect to jurisdictions and governments we consider in Europe: EU, central, national and federal government (top), provinces, states (middle), and local governments such as districts, counties and cities and towns.

Net public economic units – public enterprises – have often their own legal personality or a larger scale of management autonomy. In most EU countries public firms in forms of public law and of private law exist.

In Germany, public enterprises appear in the legal form of capital firms of private law (GmbH, AG). They operate less in personal company forms (General partnership OHG, sole trader, GmbH & Co. KG, KG). Sometimes they act as private foundations or as cooperatives or associations. They occur also in company forms of public law such as territorial jurisdictions, public associations, public foundations, and in special forms of public law for semi-dependent institutions.

In Estonia, the variety of company forms that are actually used in practice is lower compared to Germany. Therefore in Estonia, operating private limited companies and public limited companies, where the state owns more than 50% of share capital, are typically considered state owned or public enterprises. Companies owned by municipal government are typically considered as municipal enterprises. Besides corporations, state owned enterprises (so-called quasi corporations) are classified profit-making state agencies and foundations, and whose turnover is at least 25% of total revenues (and where the state has the right to appoint alone or with municipalities or other government agencies more than half of the supervisory board members). Foundations whose turnover forms less than 25% of total revenues are considered to be market producers (as the government has minor control) (Cristiansen 2011:85).

Jurisdictions are territorial or personal public cooperations of public law, which have members that are incorporated in the decision-making process and possess part autonomy. They are legal subjects who can function as an owner.

- **Territorial jurisdictions** are central, state and local governments. **Personal jurisdictions** are mostly self-administrating public bodies such as social security institutions in some countries, churches, or special institutions (personal jurisdictions) to manage infrastructure such as dikes, water management, etc.
- If they are very small jurisdictions, such as a “*vald*” in Estonia, they may themselves constitute a single public administrative unit. On the other hand they may function as governing a trust of a public administrative unit and/or public enterprises such as the city of Tallinn.

A single public economic unit has a set of parameters of action or instruments available that can be related to the spheres and sections. A public economic unit has a service related sphere and a financial sphere (see also [Figure 1](#)):

- **Financial sphere** concerns tax rates, subsidisation rates, transfers interests, crediting, credits, terms of payment, financial contributions, claims, payback of debts, received grants etc.
- **The service related** sphere comprises the procurement section, the production section and the delivery section
 - delivery: compulsory delivery, fees, service times, delivery times, connected financing, quality, service program, client service, administrative borders, label of administration, etc.
 - production: site of production, legal requirements, production program, production techniques, joint production, production times, capacities, type of factors, scope of decision-making, integration of clients, data protection, etc.
 - procurement: factor prices, factor qualities, supply times, information gathering, inventories, purchase size, procurement free of charge, sanctions, requisition, nationalisation, locations, received decrees
- **Instruments** are many and of private and public law, which therefore results in complicated microeconomic modelling. Many restrictions exist because of legal requirement and higher rank administrative control
- **The factors of production** are management, labour, equipment, materials, pre-services information and financial means, which are used as inputs.

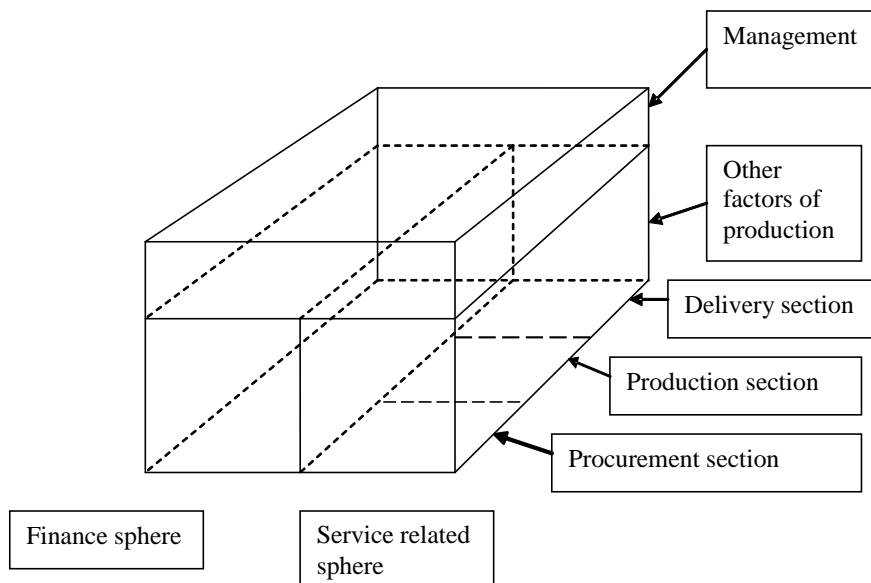


Figure 1 Spheres, sections and production factors of an administrative unit

Source: Eichhorn, Friedrich 1976

This **characterisation of an administrative economic unit** can be used for business administrative and for the economic analysis of public management in the following way:

- The public economic unit possesses a **production function**: Cobb-Douglas, CES, Uzawa, Sato, Leontief or function A, B, C, or engineering production functions for the public economic unit as such or for individual spheres and sections.

- The management possesses **utility functions** for evaluation and decision-making. They express the goals of the public economic units, the goals of the management, and the goal of increasing the welfare of society etc.
- The public economic unit is related to other economic units through **real or monetary transactions**, which are combined with exchange or without any exchange. Without exchange, public economic units can be involved in external effects.
- The relations of one public economic unit to other economic units are shown in **Figure 2**. They show clearly that the coordination of public offices by public management has to consider non-market and also market oriented decisions.

In public management the public economic units can be treated as single units (microeconomic, resembling business administration), as coordinated single units (microeconomic, economics) or as groups (aggregated, macroeconomics, economics) (Friedrich 1984, 1989). The business like public management looks primarily at one public office and its operation and goal attainment. It also looks on the impacts on other public offices but only insofar as there are reactions influencing the own goal attainments. There can be also a business-like investigation of a group of public offices but understood as one unit, e.g. a jurisdiction like a municipality. But then, the main investigation does not relate to the coordination of public offices. The coordination of individual public offices or aggregates of public offices is the object of economics and economic public management. Therefore, public management education needs considerable attention in business administration, and dominantly in teaching economics and especially public finance where public economics is mainly taught. The problem appears that business administration is very market oriented as it was mainly developed for private business management. The public management, however, is more related to non-market coordination and regulation and needs non-market oriented tools and theories of inventions partly provided by economics.

The analysis needed to solve business administrative and economic management problems are with conditions ex-post and microeconomic and macroeconomic theories ex-ante. They refer on one side on circumstances and facts and on the other side on explanations and scientific prognosis.

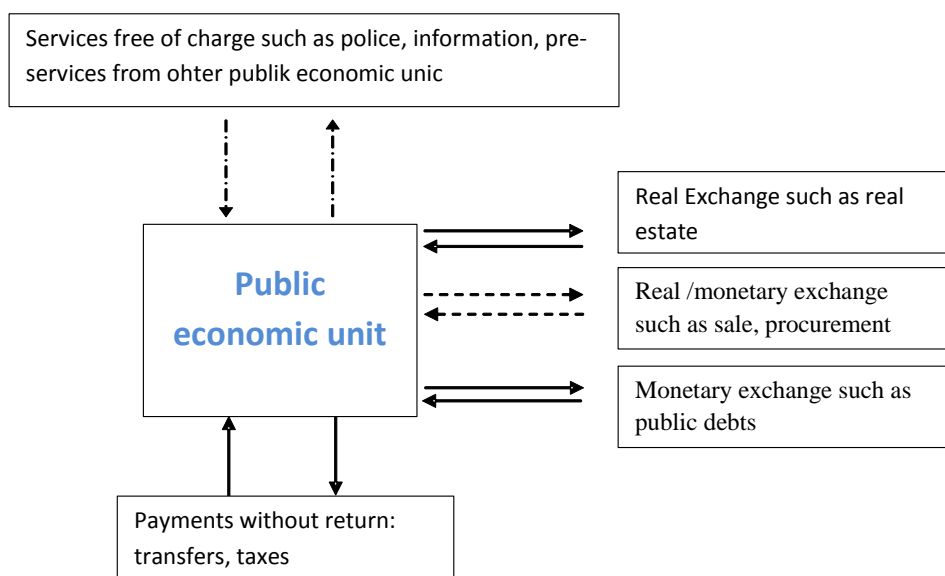


Figure 2 Relations to other economic units

Source: Authors' compilation

On the various characteristics of public administration and the different problems of business administration and economics in public management point also to the classifications depicted in **Table 2** Classification of public administrations.

Table 2 Classification of public administrations

Aspect	Criteria	Administration
Legal	Source of rights	Constitutional organs (president, etc.) Derivate organs (fiscal authorities, etc.) Legislative (parliament, etc.)
	Division of powers	Executive (governmental, administrative) Judiciary (courts)
	Owner	EU, international, etc. Central government (ministries, etc.) Sub-state (ministries) Municipality, register offices
	Form of law Private	Personal company form Capital company form Cooperatives Associations Corporations
	Public	Institutions Foundations
	Legal dependency	Dependent administrations, office, etc. Independent administration, etc.
	Competence use	Directly by own administration, central government office Indirectly by other administrations, central government function by municipal office
	Task responsibility	Own, self-administration Other, order administration
	Hierarchical position of administration	Top administrations, ministries High administrations, statistical office Middle administrations, directories Low administrations, building office
	Functions	General administrations Special administrations
Definitions in relation to operations	Law conditions between administration and client	Authorities, police
	Kind of activities	Fiscal administration, public enterprises Promoting administration (social assistance office) Intervening administration (military administration) Business-oriented administration, public firms
	Content of operations	Order establishing administrations, police Service providing administration, hospitals
	State tasks	Internal affairs, police External affairs, diplomatic service

		Legal administrative, courts Fiscal administrations, ministry of finance Defence administrations, army General administration, public relations office Fiscal administration Law and order administration
	Municipal tasks	School and art administrations, museums Social and health administration Construction administration Municipal public facilities Administration for business and transportation
	Department	State, ministries Municipal, departments
	Steps of operation	Planning administration Performing administration Control authority
	Administrative territory	EU territory oriented administration Central state territory oriented administration Regional oriented administration Local oriented administrations
Economic aspect	Economic autonomy	Gross public office Net public office
	Financial result	Subsidised administration Cost covering administration Profit achieving administration
	Form of exchange	Free of charge serving administration Monetary return achieving administration
	Goals of economic activities	Non-profit administrations, control administrations Profit -oriented administrations, casinos
	Kind of goods	Material goods producing administrations, porcelain manufactures Service producing administrations, computer centres
	Sector assignment	Administration of primary sector, public farms Administration of second sector, public housing companies, public weapon production Administration of tertiary sector, public banks
	Administrative sector	Security administration, army Education and cultural administration, schools Social administration, homes for elderly people Health administration , hospitals Agriculture and forestry administration, forestall offices Construction and housing administration, housing offices Provision and sewage administration, public utilities Transportation administration, ports

	Finance administration, real estate administration Banking and insurance administration, public saving banks, social insurance Industrial administration, public engineering companies Handicraft administration, public printing offices Trading administration, procurement offices
Product variety	One product administration, primary schools Multiproduct administrations, universities
Client	Own needs administration, staffing departments Third needs administration, public railways, swimming pools
Position to delivery Market integrated Market external	Monopoly administration, some postal services Competitive administration, fair companies, air ports Monopoly administration, police Competitive administration, business promotion offices
Order of economics	Central plan free administration, public offices in market economies Central plan integrated public offices, public offices in centrally planned economies
Shareholder	One owner administration, courts Mixed public administrations, airports Mixed administrations, organisational, public private partnerships
Concentration and trust relations	Single administration, village administration Administrative trust, Administrations of a big town, public trusts of enterprises
Regional dispersion	Central administration, central parliament Decentralised administration, customs
Location	Administrations with few location alternatives, water mills Administrations with many location alternatives, military administrations
Administration size	Big administrations, ministry of defence Middle administrations, public colleges Small administrations, local courts
Kind of production Production principle	Administrations with mass production, social insurance Administrations with partly mass production, tax authorities Administrations with individual production, courts

	Production type	Administrations with office types of production, law offices Administrations using production, hospitals Administrations with productions outside the office, police, fire brigade Administrations with workshop production, car pools Administrations with assembly line production, public manufacturers
	Proportion of kind of production factor	Staff intensive administration, labour office Material intensive administration, forest administration Capital intensive administration, public utilities
	Provision with financial means	Equity intensive capital administration, public schools Debt capital intensive administration, housing firms

Source: Adapted from Eichhorn, Friedrich (1976)

1.4. Management and Public Management

The definitions of management in literature have been rather vague (Koontz 1966). One finds descriptions like:

- Management is getting things done through other people (Wadia 1968)
- Management is the basic, integrating process of the business activity that surrounds our daily life (McFarland 1964)
- Management is to obtain the best possible blending of the interests of the individual with those of the corporation (Schleh 1966)
- Management comprises the task to reduce the many possibilities to few facts (Beer 1969).

They point to activities which constitute management without giving a precise description. Sometimes there are definitions like management is decision-making (Dale 1969) or management is guidance (Rodenstock 1971) or activities get summarised such as POSDORB (planning, organising, staffing, directing, coordinating, reporting, and budgeting) (Gulick 1937) others point to setting goals, motivating, promotion of staff etc. (Mechler 1959; Drucker 1970; Miner 1971).

Some authors refer to social bodies where management occurs as firms, administration groups of persons, etc. (Rodenstock 1971) or they refer to organisational posts responsible for mentioned activities (Illletschko 1969), or the management is a specific body of a firm (Drucker 1970). Other authors define management by referring to the position and characteristics of persons who manage. They point to their complex moral high degree of responsibility, special talents, knowledge, and are able to instruct and guide other persons (Barnard 1938; Gutenberg 1962; Rosner 1971). Management is also assumed if modern management techniques like qualitative methods and conference techniques, or quantitative methods like operations research or management by techniques are used (Bessai 1974). There are definitions pointing to the relations and activities between persons and the social entities to be managed (Wild 1971, Adamascheck, Eichhorn, von Ingelheim 1976) or management is interpreted as a “system oriented to goals” and managers as

“elements among which prevail relations” (Reichard 1973). Management is understood in public management also as staff management (Eichhorn 2003).

As a lot of literature on management treats management activities more like an art and looks at it from many points of view, these general definitions do not fit well to define public management. Therefore, a definition must be chosen that includes the economic aspects and the decision-making approach as mentioned above, and an orientation to public administration. Therefore, public management deals with decision-making, which according to our definition of a public economic unit is oriented to public goals. Moreover, the decisions have to be taken by persons who are employed or deciding for the public economic unit. On many occasions they are public officials. Their power to decide is related to the public property which determines the competences to decide.

Public management is considered when management decisions are taken by public officials or representatives oriented to the achievement of public goals on the basis of public property. However, not all decisions are management decisions. Some may also relate to executive work.

Management decisions concern decisions where there is a larger scope of decision-making for the decision maker (e. g. choice of a law form for a public economic unit), that concern many spheres and sectors of one or several public economic units (e.g. basic production technique, the organisation of an administrative sector with top, middle and low public offices) and which are causing many following decisions (e.g. introduction of fees) (Eichhorn, Friedrich 1976; Eichhorn 2003).

These decisions can concern one public economic unit where business-like or microeconomic orientation prevails. The decisions might coordinate public offices when we deal with mostly microeconomic analysis or include the coordination of a macroeconomic sector state with other sectors of the economy in the framework of macroeconomic analysis. Public management can be **business administration oriented or economic oriented**. Therefore both offer the main teaching subjects.

Public management shows so-called **management components and relations** which exist between them. **Components** consist of management goals, management phases, management levels, management tools, and management styles. The management goals are very important as they are the basis for the choice of the management decisions. They show **elements** such as the kind of goals, planning, realisation (implementation), audit, qualitative and quantitative tools, laissez fair and paternalistic styles, and top, middle, and low management. The relations concern **relations** and sub-relations. The relations can be hierarchical, assignment relations, horizontal relations, sequential relations, planning relations, realisation relations, control relations, incentive relations, and relations concerning management techniques. Sub-relations are very much influenced by the kind of public management that prevails in a public economic unit or the public sector of a country.

Here we get in contact with a basic difficulty of economic understanding and economic approach. In **business administration** concentrating on the management of a private firm, the basic goal for the firm is assumed as profit achievement. Therefore, the basic theories are oriented to that goal. That is the case with positive theory to explain the reaction of the firm to changes in environment, production techniques, factor prices, coordination with market partners, etc. But the normative theory also tells how the parameters of actions have to be fixed to achieve the firms' goal is mostly oriented to profit maximisation. Also, the ex-post analysis, in the form of commercial bookkeeping, is oriented to detect the profit and the increase in wealth.

The management models can involve very different goals, for example, according to the first management model of Baumol (1959: 45-53), the size of the firm (as well as turnover) can be a goal for the top management, rather than profit. Marris (1963: 186-191) adds the dynamic form, which

considers the growth of the firm as a goal for the top management. Williamson (1964:38-60) considers that the managers aim to increase the number of employees as well as the investment expenditure with the characteristics of consumables. The Jensen and Meckling (1976) idea, also found from empirical evidence, is that the management is interested in ownership (shares) of the company.

As public management has to consider many different goals according to the tasks of the many different public offices and enterprises mentioned, there is a lag of theories as well in the field of explanation as with scientific prognosis. There must be a much bigger variety of theories according to the different goals. Sometimes these theories concerning the different goals get substituted by a goal of the maximisation of output (Friedrich 1969) as the achievement of goals is often related to higher service output. But still there are many goals that are related to special impact on other economic units where to develop an adequate explicative or normative theory is very difficult. There are steps of analysis in this direction (Halachmi 1999; Reichmann, Reinermann 2000). This is very true for ex-post analysis where the commercial accounting is substituting cameral accounting or hindering the development of social accounting for public purposes (Eerma 2014).

A similar problem is encountered in **economic public management**. Here the magnitude of goals is mostly substituted by using a social welfare function, which should express the degree of goal fulfilment caused by public management. Then, in positive theory, the best decisions concerning the fixing of parameters and activities get determined or the behaviour of the public office explained. The welfare functions can be different ones, such as dictatorial ones, or ones with which the wellbeing of different individuals is judged paternalistically or by those which are oriented to the wellbeing of individuals only (Graaf 1963; Samulson 1964). The individual oriented ones are mostly chosen to identify optimal production of public offices. However, in reality, such a welfare function is mostly not available for public management and a rational one cannot be attained through majority voting procedures (Arrow 1963; Mueller 2003). Then, for economic analysis, an individualistic welfare function is assumed and an omniscient “public management”, government intervenes into a market economy mainly comprising of private firms and private households, and then welfare maximal subsidisation, transfers, fee structures and optimal production volumes of public offices and best market organisations are determined. This should also be the case with respect to public enterprises and public offices (Rittig 1977). Sometimes the welfare function gets substituted by the utility function of a representative consumer, and this kind of reasoning is often applied in economic policy and in public finance. The service sphere of public office and the process of the formulation of public goals is widely spared out. This is especially the case in the analysis where the public production is treated as a demand-side defined public good, which is a good that can be consumed jointly, where there is no additional production factors needed to increase production, which is indivisible so that no one can be excluded from consumption. However, this good's definition does not coincide with a physical good or service as used in business administration. The good is the utility or disutility caused to consumers and its impacts, and does not concern the physical outcome of production. The good is not the shot of the policeman who kills the criminal, but the increased feeling of security which stems from the fact that the criminal has died. Improvements can stem from a supply-side oriented definition of public goods, which points to special production conditions, impacts and risks to other economic units, which makes it an advantage to have them under purely public control (Friedrich, 1984). For economists, the challenge is to develop a microeconomic theory of the public office and coordination which does not leave out the processes within the public offices, which is also true with macroeconomic analysis of the public sector. The way to do so is the so-called **constitutional approach** of analysis in public finance (Brennan, Eusepi 2004). The maximisation of welfare is not from an omniscient governor, but from constitutional settings, and the goals are set by decisions in government and parliament and by bureaucrats. The jurisdictions negotiate or give orders to their public offices and they get coordinated with other public offices from other jurisdictions or with public enterprises, and recently with private economic units like firms and households. Here, the

management decisions develop in continuing political and production processes. However, this kind of analysis is not greatly developed yet. In continental Europe there is in relation with public enterprises two sub-branches of this kind of reasoning. One the branches interprets public enterprises and public offices as tools to achieve single or bunches of public goals (Thiemeyer 1975, Rees 1976, 2006, 2006a; Bös 1986), and the other one is based on the opinion that for the survival of society a balanced task distribution between public and private economies should exist (Ritschl 1925, 1970). This constitutional approach is very important for the further development of public management.

This situation together with the complicated structure of the public economy is responsible for the fact that we have not an accepted basis for making public management decisions. Therefore, a generally accepted idea about a public policy for the public sector itself and for best public decision-making does not exist. Therefore the analyst turns to a substitute – as in the debate on the best order of an economy. He formulates principles how to improve public management decisions and develops a guiding idea about successful management. This leads to management concepts for public management (see also [Figure 35](#) on page 115). There the management decisions are greatly influenced by a **guiding idea about successful decision-making** in public offices and public firms. They determine the requirements for appropriate decisions. Moreover, they determine which **management components and which management relations** are relevant. A **management concept** is the essence of all related management components and elements oriented to management decisions that follow a guiding idea. These concepts deal with one public office but also with groups of public offices, e.g. which belongs to a jurisdiction, and with relations to other economic units. It deals with the policy of one public office, but also with that of the public sector. A course on public management and management concepts is essential; however, it must offer integrated content from economics and business administration. The management concepts are further elaborated on page 93 (Teaching Management Concepts for the Public Sector).

1.1. Teaching Activities

I Interactive lecture concerning the main aspects involved in the study of public management. The main concepts and fields are presented by using Power-Point slides. The students are assigned to a *working-along exercise* which is aimed to connect the main questions of Public Management (Sub-Chapter 1.1) and the approaches for analysing these questions from Sub-Chapter 1.2. The students are encouraged to work step-by step through all of the ten questions on public management with the feedback from the lecturer and discussion in the classroom. The students are also encouraged to recall their earlier courses which are connected to the Public Management course to develop linkages to earlier studies (Peters 2014). The students are assigned to answer at home questions 1-40 and ask questions in the seminar that remained unclear (assessing declarative existing knowledge). The main emphasis in these activities is on understanding the importance of public management and the use of different approaches to analyse it (contributing to general learning outcomes no 1&3). The emphasis is also on the articulation of a public service perspective of public management in general (contributing to general learning outcomes no 4).

II interactive lecture for defining Public Administration Units and Public Management. The definitions and spheres of activities are presented by using Power-Point slides. Thereafter the students are invited to an exercise for the construction of the *concept map* based on the [Table 2](#). The aim is the group-identification of different administrations and their relations to the classifications criteria. The concept is to form two separate groups for similar content maps and allow for the mutual correction of the concept maps for encouraging the discussion. The exercise contributes to the understanding of the spheres of activities of public offices and public enterprises (general learning outcomes no 1).

III Seminar. The students discuss the home assignment given in the lecture II, which is teamwork (of 3 student-teams) based on exercises 1-10. Each group is given one exercise to solve at home and the leader of the team is expected to present the results in the seminar. The seminar is aimed to review the data and sources about Estonian public administrative units. The guidelines for the work are provided in the lecture and the assignment is evaluated in the seminar. The team members are required to provide information about their contributions and the team leader is separately evaluated³.

IV Seminar. The students are asked to bring their laptops into classroom and, while working in groups, they are required to form an answer to one of the exercises 12-22 by using electronic resources (websites Riigi Teataja, Statistics Estonia, Ministries etc.). The aim of the seminar is to help students to improve their knowledge with different sources of legal documents, literature and reviews. They have already used some sources for preparing for Seminar II, but in this seminar the instructor points to appropriate sources where necessary. Again, a leader of the group is nominated who formats and sends the results of the group work to the instructor. The leaders of the groups cannot be the same as in Seminar III. This assignment is also evaluated.

Both seminars are focused on teamwork skills, but also on leading and group management skills (general learning outcome no 1). The seminars are also for improving the competences to analyse, synthesize and solve problems (general learning outcome no 2).

V Seminar based on the Jigsaw Method (Aronson et al. 1978). The aim of the collaborative study method is to elaborate the interaction of the distinctive traditions of different countries for public management in Estonia. The preparations for the jigsaw are made in Seminar IV, when the students are assigned to jigsaw groups consisting of at least three students. Each group is appointed a leader. Each student in the group is assigned to study the experience of one segment of the countries (continental Europe (based on Kickert 2005), US (based on Lynn 2008) and Nordic countries (based on Hagen and Sitter (2006))). The basic literature is given but the students are encouraged to use additional literature sources. The students read the materials beforehand at home and in the seminar temporary "expert groups" are formed according to the country segments. Students discuss the main points of their segment for preparing the presentations to their jigsaw group. The students are then brought back into their jigsaw groups and asked to present her/his segment to the group. The jigsaw groups are encouraged to find from each segment some aspects that have influenced public management in Estonia.

The seminar will help to understand the importance of public management and the use of different approaches to analyse it (contributing to general learning outcomes no 1&3), but also to management and leadership skills (general learning outcome no 1).

There are in total 4 hours of lectures and 6 hours of seminars, with 22 hours individual work.

Assessment criteria for assessing the achievement of specific learning outcomes are the following (based on Hansen 2012 with authors additions):

1. Assessing, collecting and organising existing knowledge (teaching activities I, II, IV)
2. Displaying the command of existing knowledge (teaching activities I, II, III, IV, V),
3. Interpreting existing knowledge (teaching activities II, III, IV, V),

³ The idea is that during the course every student can lead the team once or twice and hence can develop respective skills.

4. Applying existing knowledge (teaching activities I, II, III, IV, V),
5. Teamwork skills (teaching activities I, II, IV),
6. Leadership and management skills (teaching activities III, IV, V),
7. Communication skills (teaching activities I, II, IV, V).

The methods of assessment of the knowledge are based on reports of activities III, IV, V (for assessing the criteria 1, 2, 3, 4). The reports are assessed for content adequacy with respect of the specific learning outcomes as well as style and literacy. The assessment of the criteria 5 is based on team member peer evaluation (as in Bartlett 2006: 42-44), the communication and participation in discussions is evaluated by the instruction of Carlson and Velenchik (2006:73-74). The assessment criteria 6 is evaluated by similar sheet as team member peer evaluation, amended specifically for the team leader.

1.2. Reading List for Students

- Sub-chapters 1.1-1.4 of this instructional material.
- Kickert, W.J.M. (2005) Distinctiveness in the Study of Public Management in Europe. A Historical-institutional analysis of France, Germany and Italy. *Public Management Review*, vol 7, nr. 4: 537-563.
- Lynn, L.E. Jr (2008) The study of public management in the United States. Management in the New World and a reflection on Europe, pp. 233-262 in Kickert, W. (ed.) *The Study of Public Management in Europe and the US. A comparative study of national distinctiveness*, Routledge: US and Canada.
- Hagen, K., Sitter, N. (2006) Public Sector Reform and Economic Success: Nordic lessons to be learnt? CEAS No 2/2006, 1-24.
- Thynne, I. (2003) Making Sense of Organizations in Public Management: A Back-to-Basics Approach, *Public Organization Review: A Global Journal* 3: 317–332.

1.3. Questions for Repetition

Sub-chapters 1.1 & 1.2

1. Which aspects of analysis of public management should be distinguished?
2. Why is the legal aspect of high importance for public management analysis?
3. Which kinds of coordination prevail within the public sector and between public offices, and private firms or private households?
4. Why is legal language of high importance for public management?
5. Does public management use public and private law?
6. What are the tasks of research concerning administrative law?
7. Why are sociological dependencies of importance for public administration research?
8. What are the main fields of sociological research with respect to public administration?
9. What are the features of bureaucracy and why it is essential for public administration?
10. Why is political analysis relevant for public administration?
11. Which parts of public management depend heavily on politics?
12. Which problems of public management are of major interest for political analysis?
13. How does public administration influence politics?
14. Why is psychology of particular importance for public management?
15. Which problems of public administration tackle psychologists?
16. Which other aspects are relevant to analyse public management and public administration?
17. What questions of public management concern economic investigation?

18. Why is the economic aspect of basic importance for public management?
19. State the economic problems to be solved for public administration.
20. What is the role of public finance, public policy, business administration and economic theory?
21. What types of research are related to the administrative and government doctrine?
22. Why is administrative doctrine mostly descriptive?
23. What are the main topics of administrative doctrine?
24. Why is government doctrine closely related to the political aspect?
25. What are the tasks of analysis of the government doctrine?
26. Which are the three approaches of system analysis and what could be used to analyse public management problems?
27. What are their advantages and disadvantages?
28. Can cybernetics be applied in public management?
29. For what purposes could the behavioural approach be useful?
30. Which particular aspect of decision-making in public management points to the behavioural approach?
31. Which important features of public management are not generally treated in behavioural analysis?
32. Why is the decision-making approach of special high importance in public management?
33. How is descriptive public management research related to the psychological, sociological and economic aspects?
34. What kinds of decisions in public offices get investigated?
35. Which role uses decision theory?
36. What methods are used to determine optimal decisions?
37. State examples of economic theory application to public management which you have studied in microeconomics, macroeconomics, public finance, business administration and economic policy.
38. What advantages are offered by the public administrative comparative approach?
39. What are the limits of benchmarking sectors of public administrations, jurisdictions of different federal level, and the administrative sectors of EU member countries of other countries?
40. What allows benchmarking to find optimal solutions?

Sub-chapter 1.3.

41. What legal, sociological, economic definitions exist? How are they normally treated in public finance?
42. Characterise a public enterprise.
43. Characterise a public office.
44. State legal forms of public enterprises and public offices.
45. How can you distinguish public enterprises and public offices from jurisdictions?
46. Which spheres of activities of a public economic unit can be distinguished?
47. State parameters of action concerning finance, procurement, production, and the delivery of a public office.
48. Which relations exist between a public office, other public offices, public, enterprises, private households and private enterprises?
49. What kind of analysis is needed in public management?
50. Which other kinds of definitions of public offices and public enterprises are in use?

Sub-chapter 1.4

51. What are the activity oriented definitions of management?
52. How do you define management as a system?

53. Why should public management be defined in relation to decisions?
54. How should public management be defined?
55. What are the features of public management decisions?
56. Do public management decisions refer to one public office or to several public offices?
57. Why is business administrative and economic analysis needed?
58. What is a positive analysis of public management, What is a normative one? What is an ex-post analysis? What is an ex-ante analysis?
59. What are the basis weaknesses of business administrative analysis and those of economics in public management?
60. What is a public management concept?
61. What are the components and elements of a management concept?
62. What is a leading idea of a management concept?
63. What are Welfare functions? For what purpose are they used?

1.4. Exercises

Sub-chapters 1.1 & 1.2

1. Describe the most important public laws for public management in Estonia.
2. Which Estonian institutions belong to the executive and governing power? Which are due to the legislation power and which are part of the legal power?
3. Who takes the coordination place in public law and who in private law? State examples with respect to public offices.
4. Find Estonian text-books in administrative law; write a short summary of the contents.
5. What influences from socialist times still determine the behaviour of public officials in Estonia?
6. What kinds of Estonian public offices seem rather bureaucratic and why?
7. Discuss the bureaucratic features of Max Weber in relation to a University.
8. What are the most important political institutions in Estonia?
9. How does the European Union influence the goals of public management in Estonia?
10. How can you measure the share of public activities in the economy of Estonia? What is the share in Estonian production, employment, investment, consumption, debt?
11. Find an article of Estonian scientific literature on public management and write a short summary (1 page)

Sub-chapter 1.3

12. Which legal forms of public offices and public enterprises exist in Estonia? Which are missing in comparison to other European countries?
13. Investigate the number and dynamics of public enterprises in Estonia. Which public enterprises are mixed ones? Investigate the number and dynamics of municipal enterprises in Estonia.
14. Based on Christensen (2011), compare the number, sectoral distribution and dynamics of public firms in Estonia to other OECD countries. What conclusions can be drawn based on the comparison with respect to the aims of Estonia and the other governments?
15. How many jurisdictions exist in Estonia? Analyse the size distribution of jurisdictions in Estonia.
16. How many public offices and public enterprises are in the city of Tartu?
17. What are the market and non-market relations between the University of Tartu and other economic units?
18. How is the University of Tartu financed?
19. How many public schools and school teachers are in Estonia?

20. Which jurisdictions are financed by taxation?
21. Which taxes exist in Estonia? Which grants are given? What kind of public debts occur? What other kinds of finance exist?
22. Which transfers and which subsidies exist in Estonia?

Sub-chapter 1.4

23. Find out which management definitions are used in Estonian scientific literature about public management.
24. What are the features of the management concept of the University of Tartu? What seems the guiding idea, and which components and elements are relevant? Give examples.
25. What are the concepts of the order of economies? Which features get used in literature on economic policy to characterise them?
26. What are the concepts of firm policy in Estonian public enterprises?
27. Identify the Estonian laws which determine the management concept used for public management in Estonia.
28. Classify the welfare functions which are stated in literature. How is the welfare function for Estonia found?

2. Teaching Microeconomic Foundations of Public Management

The specific learning outcomes of this chapter are:

- Understanding of the decision-making and respective effects in public sector compared to private sector (contributes to the general learning outcomes no 1, 3, 4);
- Application of microeconomic theory on public and private sector units, which further develops the skills for working with the academic literature in this field (general learning outcome no 3);
- Skills for critical assessment when applying theoretical models for evaluating public and private units and their cooperation (general learning outcomes no 3&4);
- Knowledge about forms of cooperation of public and private sector units in Europe (general learning outcome no 2);
- Review concerning the experience of respective policy outcomes when applied to practice (general learning outcome no 2).

2.1. The Fundamental Approach

Following the basic definition of public offices, public enterprises and public management concepts it is necessary to develop and apply a **theory of public office and of public enterprise**. This has to be - as we concentrate on decision-making analysis and the economic approach to analyse public administration – an abstract description of decisions of the public office economic unit. This serves to characterize economic alternatives of public management and its aim to detect optimal decisions and to show them as an economic plan. This helps to illustrate what a public office is going to produce, how much it produces and how it combines factors of production and how it is coordinated with other separate public offices belonging to the same jurisdiction or another one. It also shows how the public office reacts when economic conditions such as the goals to achieve; and the production, factor and budget conditions change. Moreover, such a construct of an **economic plan** allows the possibility to determine how the coordination with other economic units change and what impacts of such coordinative actions result for the public office or for its suppliers or clients. This analysis is needed in business administration of public offices as well as in coordination of several public offices from an economic point of view. However, in this chapter the analysis concentrates on microeconomic analysis, the consideration of non-aggregated micro economic plans. The impacts of public office activities on macroeconomic aggregates are analysed later (Chapter 3).

The complication, which stems from a detailed concept of public management forces us to reduce it for the economic analysis of public management. This is done by considering the requirement for decision-making and of an economic approach. Moreover, the tools of analysis should be applicable in business administration and in economic analysis. Public management is described by simple mathematical models in algebraic or graphic form and applied to business administrative or economic analysis. The models concern the **optimal plan** of a public office and sometimes include the coordination of public offices. Sometimes these plans refer to a public enterprise or the coordination of public enterprises with respect to the relevant jurisdiction, the factor suppliers and deliveries and connected revenues and expenditures.

The **reduction of possible public management concepts** becomes extensive. For purpose of necessary analysis the analysis does not explicitly assume a special public management concept (as in Chapter 4) prevailing in a public economic unit. The analysis refers only to management decisions and public management that has enough autonomy to do so. The reduction of a public management concept is achieved by considering goals as an important component when they are necessary to evaluate decision alternatives. In the majority of models of public management the tasks and goals do not get developed unless they are combined with a public choice model. The phases get reduced

to one phase that is the planning phase. For most models of public management it is assumed that decisions get implemented as made. Therefore, the auditing causes no problems. The economic unit does not show different management levels and in the simple models there exists only one decision-maker. There is one decision-making level; and there are no special social, monetary, advancement and management style incentives necessary. Some basic relations concerning production conditions, demand and supply conditions and budget conditions are included in the models used to explain management decisions, reactions of public units and impacts of public management. The economic environment like factor prices demand conditions are taken as given.

2.2. The Economic Plan of a Gross Public Office

A public office as defined in the first chapter can produce a single product or multiple products. In public finance literature the goods produced are often named as public goods (Samuelson, 1954, 1959; Musgrave 1959; Batina, Ihori 2005, Shoup 2006). **Public goods** (social goods) show characteristics that seem to make public provision for such goods necessary. These **features** are: non-divisibility, common consumption, non-rivalry in factor use, an exclusion principle cannot be applied and since no one can be excluded from consumption no one is willing to finance voluntarily, therefore tax finance is needed⁴.

However, in public finance the issue is to determine why the production of these goods has to be a special one which leads to a one-sided finance by citizens through taxation because clients are not willing to pay voluntarily for these goods. Generally the good produced is not defined in business administration or economics as a **usual economic good** (Woll 2007), which is technically appropriate for use, is reachable, and scarce such as a tool, a car etc. Those goods where the exclusion principle can be applied are named private goods. With public goods one finds different definitions.

The **public good** is defined as **utility creation** (1), e.g. with clients, all citizens of a jurisdiction, all citizens of a nation or for EU. Then either joint or common consumption is possible and analysts in public finance can try to solve the created fiscal problems and identify reasons for taxation. However, this type of good differs from the goods definition used in business administration and in economic theory. There, the analyst describes **public goods and services as ready for delivery** (2), e.g. bus transportation offered and scheduled or a police patrol. This meaning is also chosen in business administration and administrative management. Other authors define them as **goods sold or delivered** (3). This definition is also used in business administration and in economics. There is also the notion that a public good exists if **production factors are used** (4), e.g. pupils in a classroom, the definition of state consumption in national accounting. There is also the definition that public goods are **goods with external effects** (5) (Timm 1986). The fourth definition (4) marks a hope, that there is a product, which is useful; definition (1) is demand oriented, definitions (2) and (3) are supply oriented and definition (5) is a combination of (2) and (3) with external effect. In the literature of public finance one finds several **models** to illustrate the conditions for the optimal provision of public goods according to **definition** (1). Some authors deal with the first order conditions of a welfare maximum (Schleicher 1971, Samuelson 1958, Hindriks and Myles 2006, Chapter 5). Another approach by Bowen and Wicksele interprets taxes as a price for public goods and finds the optimal size of public goods provision where the vertically calculated demand curves equal the marginal costs (Lindahl equilibrium) and a third approach by Samuelson is shown in

⁴ The discussion of the concept of public goods at the intermediate study level is given in Hindriks and Myles (2006), Chapters 5 and 6. The students have studied these chapters in the framework of the course for Intermediate Public Economics.

Figure 3 graphically. In an economy produced private goods and public goods are expressed by a transformation curve in

Figure 3. There are two groups of citizens. If the public goods are delivered in the volume of R and group 1 has a utility level $I_1 = 5$ (shown in the left picture, then group 1 needs a small delivery of private goods YZ and the remainder of private goods VW is available for group 2. Such remainders can be detected for all volumes of the public goods when the utility of the first group is fixed according to its indifference curve. A special transformation curve for group 2 results, where group 2 realises its highest utility, e.g. when group 1 attains a utility of 5, group 2 receives a utility of 20 at point W . This can be utilised for different indifference curves for group 1 (and utility levels) and the best utility position for group 2 is found. It is also possible to do this analysis in reverse and look for the best position of group 1 when the indifference curve of group 2 is given. A utility frontier (utility possibility curve) results, which shows the best possible combinations of utility for both groups that result from the allocation of public and private goods to the two groups can be calculated. However, along the utility frontier there are several solutions possible. According to Samuelson a welfare function (social indifference curve is necessary) to determine the optimal utility combination (and combination of public good and private goods allocation).

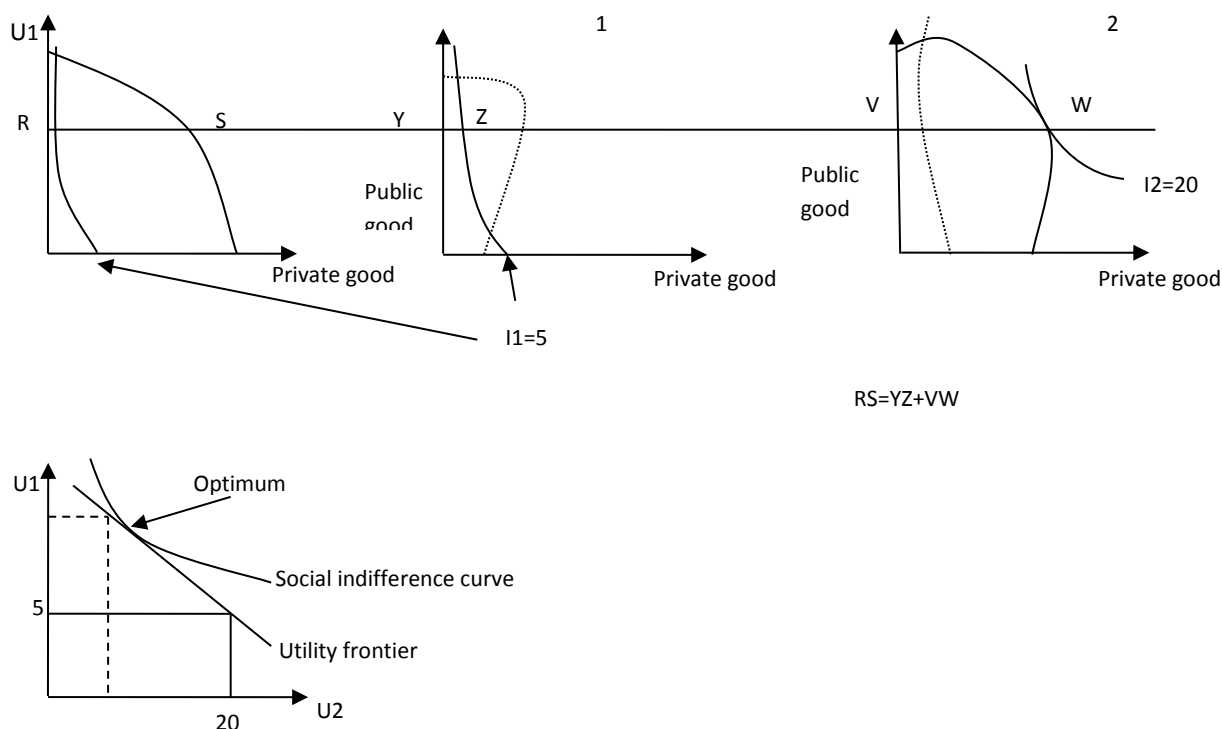


Figure 3 Provision with public and private goods

Source: Similar to Musgrave (1959)

In **game theory** a welfare function is not used but the utility evaluation by an arbitrator (Nash 1950, Luce, Raiffa 1957, Mueller 2003), the risks of negotiations (Pen 1952), or the losses in utilities (negotiation costs) that are caused by negotiations (Hicks 1963, Bishop 1964), the threat strategies (Nash 1953), procedures to divide the benefit increases (Luce, Raiffa 1967, Isard et al 1968, Holler, Illing 2005). Thus many factors, which are due to public management behaviour, determine the output.

However, the public good model is seldom applied to determine the output of a single public office as the utility concept of a public good is used, which does not concentrate on the fabrication of a good or a service and does not consider inter-administrative pre-services and deliveries. The **demand oriented public goods concept** allows for no decision whether public goods should be produced by public or private economic units. With demand oriented public goods the output is not treated as good but as a utility change. Most goods and services produced by public economic units are private goods in the sense stated above. For goods supplied by public enterprises exist markets, most services etc., provided by public offices require individual receivers to be legally responsible. The demand oriented concept is therefore not adequate.

For management purposes we need the usual goods definition as produced good or supplied good (2), (3). A **supply oriented definition of public goods** might be helpful. This seems possible by turning to the public good definition according to a good with external effect, which is related to the production and management issue.

Especially within the supply oriented concept state tasks can change according to the situation of the society, e.g. war, peace with fewer difficulties for economic units, peace combined with strong horizontal or vertical international competition. Therefore, the public offices should produce services and goods **necessary to the survival** of the state. In war time, subsistence, rationing services etc., in peace time those services that are necessary to avoid crisis situations for sectors, firms, and private households (social market economy).

Therefore, **productions** that are: dangerous (external effects, technically), necessary to the survival of sectors branches and households, to guarantee long-term possibilities of production and technical development, to guarantee stable social coordination and justice, to stabilise population development, to support social transfers between individuals, old and young, healthy and ill, etc. show special supply side oriented characteristics and may be candidates for public provision. Consequently the goods definition is compatible with type (2) and type (3) and as public good type (5). The listing in **Figure 4** allows to determine for the public managers in which sectors the goods should be produced and shows whether they should be produced by public offices, public enterprises, or by private public partnerships or by private firms.

If such a good of type (5) is produced one can develop the following simple economic plan for a public office also named an agency or a quango if their budget is fixed (Friedrich, Ukrainski 2013). A public economic unit (public office or public enterprise) has to achieve public goals related to the utility function of management, and produce outputs. To achieve this it has a set of **parameters of action or instruments** available that can be related to the spheres and sections (see also sub-chapter 1.3). In the **financial sphere** there are sometimes tax rates, subsidisation rates, transfers interests, crediting, credits, terms of payment, financial contributions, claims, payback of debts, received grants etc., available if the budget is not fixed. However, most public offices with a given budget do not have these parameters available as public offices. This is also true for public enterprises, which have not the power to tax. In the **service related sphere** are available parameters of **delivery** such as: compulsory delivery, fees, service times, delivery times, connected financing, quality, service program, client service, administrative borders, label of administration, etc. For **production** there are parameters of action like site of production, legal requirements, production programme, production techniques, joint production, production times, capacities, kind of factors, scope of decision-making, integration of clients, data protection, etc. For **procurement** purposes: factor prices, factor qualities, supply times, information gathering, inventories, purchase size, procurement free of charge, sanctions, requisition, nationalization, locations, received decrees are parameters. As instruments are many and of private and public law, results a complicated microeconomic modelling. Many restrictions exist because of legal requirement and higher ranking administrative supervision.

Public economic units	Public economic units					Private economic units		
	institutional-PPP		Contract-PPP			Private regulated firms	Private firms	Regulated private and public firms
	Admini- stration	Public firms	Mixed firms	Authorized private firms	Other contracts			
Features to ensure existence	x	x	x	x	x			x
Non-varying supply by several suppliers	x	x	x	x	x			x
Enforced participation of client in supply	x			x				
Desired effects	x	x	x	x	x	x		x
Stand by duty if capacities are not used extensively	x	x		x		x		x
Specified group of clients	x	x		x				x
The good to be delivered shows negative impacts on our economic units	x			x	x	x		x
Cooperation of economic units without market relations	x			x				
Delivering to public clients only	x							
Advantages are not with suppliers	x							

Public economic units	Public economic units					Public economic units		
	institutional-PPP		Contract-PPP			Private regulated firms	Private firms	Regulated private and public firms
	Admini- stration	Public firms	Mixed firms	Authorized private firms	Other contracts			
Inputs stem from other administrations	x							
Cooperation of public administrative units	x							
Technical dependencies to other public inputs and outputs	x	x						x
Capacity tender	x	x						x
Tender of economic units on procurement, compensation	x							
Special inputs from public sector	x	x						x
Dangerous production	x	x	x		x	x		x
Join production with administrative units	x							
No division of input and output	x							
Guarantee of equal quality	x							

Figure 4 Supply oriented public goods according to definition (5)

Source: Friedrich (1984)

For a public office phasing a given budget and producing one output the following **assumptions** should hold.

- Utility of management depends on output (X) and labour input (L)
- Production depends on capital (K) (also materials) and labour (L)
- Budget (D) equals expenses for labour ($q_L \cdot L$) and for capital (materials), ($q_K \cdot K$) if there are additional output dependent expenses ($X \cdot t$ to be financed out of the budget they have to be subtracted (taxes, etc.).

The following **Lagrange function V** is maximized: $V = U(x(K, L), L) - \lambda(D - x^* t - q_K^* K - q_L^* L) \rightarrow \max$
The **first order conditions** result:

$$\begin{aligned}\delta V / \delta L &= \delta U / \delta x^* \delta x / \delta L + \delta U / \delta L + \lambda^* q_L = 0 \\ \delta V / \delta K &= \delta U / \delta x^* \delta x / \delta K + \lambda^* q_K = 0 \\ \delta V / \delta x &= \delta U / \delta x + \lambda^* t = 0 \\ \delta U / \delta x / t &= -\lambda \\ \delta U / \delta x^* \delta x / \delta K - \delta U / \delta x / t^* q_K &= 0\end{aligned}$$

The last expression gets $t^* \delta x / \delta K = q_K$. When a positive tax rate t exists $\delta x / \delta K$ becomes smaller and x diminishes. From the first order conditions follows:

$$(\delta U / \delta x^* \delta x / \delta L + \delta U / \delta L) / \delta U / \delta x^* \delta x / \delta K = q_L / q_K$$

The economic plan of the public office is optimal if the relation of marginal utilities of marginal factor inputs equals the relation of factor prices. If $\delta U / \delta L = 0$ that means labour has no value as such and the well-known **minimal cost condition of production results**.

$$\delta x / \delta L / \delta x / \delta K = q_L / q_K$$

This demonstrates in **Figure 5** how important the evaluation and ethic values of public managers are (see also **Figure 5**).

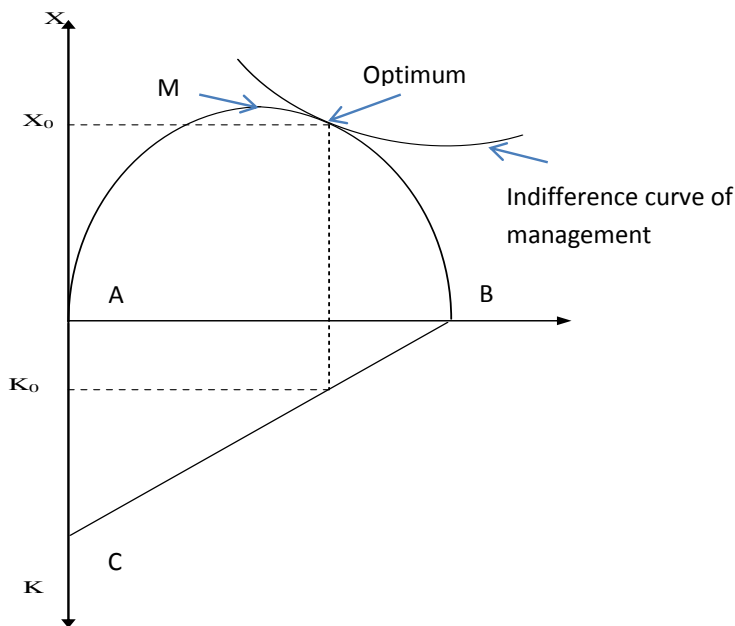


Figure 5 The optimal plan of a public office

Source: Eichhorn, Friedrich 1976

In **Figure 5** exists a labour-output curve AB . It shows the combinations of output and labour, which are possible to achieve with budget CB . Then there are indifference curves of the managers at the optimum the highest achievable indifference curve is touched by the AB curve. The highest possible output M is not realised.

This simple model allows some insights into the **reaction of public office and the public management** on changes in the economic environment. If the budget gets cut the curve *CB* moves inward and the curve *AB* becomes smaller. The optimum moves to the left and down. The utility: utility decreases, output *x* decreases, capital decreases, labour decreases. If the factor price of labour increases, the curve *CB* gets steeper and the point *B* moves to the left. The *AB* curve becomes smaller and the optimum moves to the left and down. Therefore, utility decreases, output decreases, capital decreases substantially, and labour decreases. In case of higher factor price for capital point *C* moves upward and the *AB* curve becomes smaller. The optimum moves somewhat to the left and down. Again the utility decreases and output *x* decreases. Capital decreases and only a small labour decrease occur. In extreme cases there might occur a labour increase. Higher working times in the public office leads to an upward move of the *AB* curve. The optimum moves right and up. The utility of management increases, higher output results, higher labour, might decrease. Shorter working time reduces the *AB* curve and moves down. The optimum changes in the direction of left and down. The utility of management decreases, less output results, decrease or increase in capital, less labour input is to be expected.

The model can be used to predict the shift and incidence of taxation on a public office. The incidence might be measured by a reduction of output as the fulfilment of public goals as linked to the output. The shift is expressed in the reactions concerning the decisions and the shape of the optimal plan. A **tax on variable costs** taxing the inputs of materials (here *K*) and labour leads to the left of the budget line. *AB* curve drops. A reduction in output and lower inputs follows. A **tax on fixed costs** also moves the budget line to the left and leads to the same result. A tax on one variable production factor, e.g. a tax on labour, shows the same result as a factor price increase stated above. A **tax exemption from the value added tax** shows the following reactions. The pre-tax cannot be deducted from construction costs etc. Therefore the fix costs become higher. The budget line is more to the left and we have a result similar to the tax on fixed costs. As there is no turnover to be taxed, there is no additional reaction. These reactions take place under the assumption that no compensation with respect to the budget by higher ranking public offices is made.

Similar reactions can be detected for subsidisations or grants from other jurisdictions or donations from private economic units if passed on to the public office under consideration.

There are ways to **extend the model**. One can extend the utility function of the managers to include special evaluations concerning the pre-outputs and labour costs in the spheres and sections. Moreover, a production function is applicable that comprises the section outputs which are linked to a total output (e.g. in substitutive form). Restrictions have to show the factor costs in the sections and the turnovers. Further specifications like minimum quantities to be delivered, location conditions, labour restrictions, e.g. labour cones (Friedrich, Pfeilsticker 1986), can be introduced by more restrictions.

Different **evaluations of management** can be considered by introducing different types of utility functions, which can be related to different types of public management in a public office. There are managers of:

Type I : maximises a combination of output and labour

Type II: maximises output

Type III: maximises labour

Type IV: maximises a combination of labour and output but lacks interest in output

These types are shown graphically in **Figure 6**.

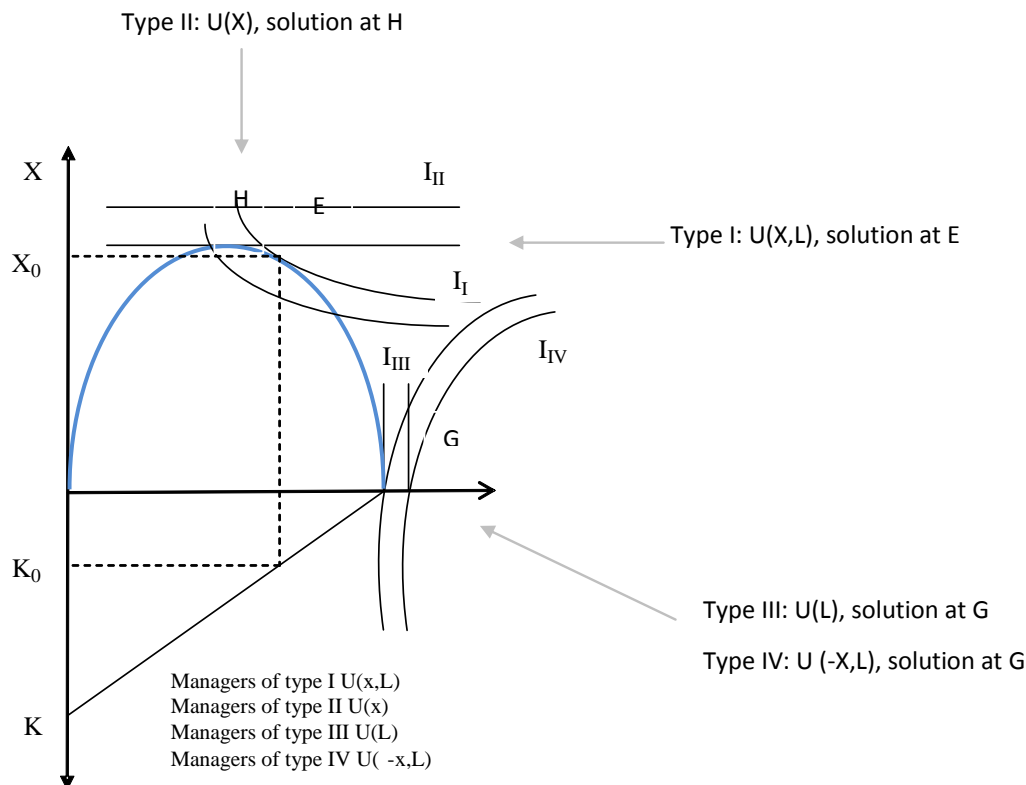


Figure 6 Different types of management and different solutions

Source: Friedrich 1988

The optimal plan switches with a **type change**: in favour of higher labour if type II becomes either type I or type III or type IV. One very important policy of public management is to influence the ethic valuations of the managers to achieve behaviour and decision-making that comes near to type I.

The consideration of public investment decisions can happen in the public office plan model. **The relation of marginal utilities of marginal factor inputs equals the relation of factor prices. One of the inputs is capital in which investment takes place.**

In another approach the idea of costs of investment processes are used as shown in [Figure 7](#). The management is of type II. For the optimal plan one obtains:

If there are two investment processes that lead to different costs – one more capital intensive I, the other more labour intensive II, therefore the one can be seen as better that shows at the critical volume with smaller average variable costs. With other types the cost curves become steeper and the volumes smaller.

A further approach compares parks of machines, equipment and instalment according to [Figure 8](#) when management of type II prevails. There is also the assumption of a type II management.

- The machine park is preferred where the last not totally used machine shows the **lower average variable costs** if all other machine capacities with lower variable costs are fully in operation.
- If new machines show lower average variable costs than the park with new machines of **higher capacity they are preferred.**

In a growth model of management of type II the following rule results. The **interest payments** caused by investment in a new machine has to be as high as **cost savings** because of less use of other factors (Friedrich 1969).

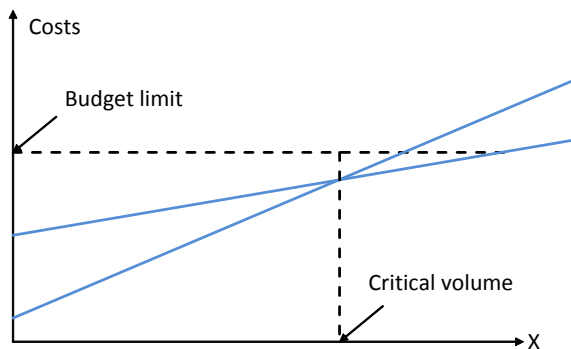


Figure 7 Better investment process for public office for type II management

Source: Authors

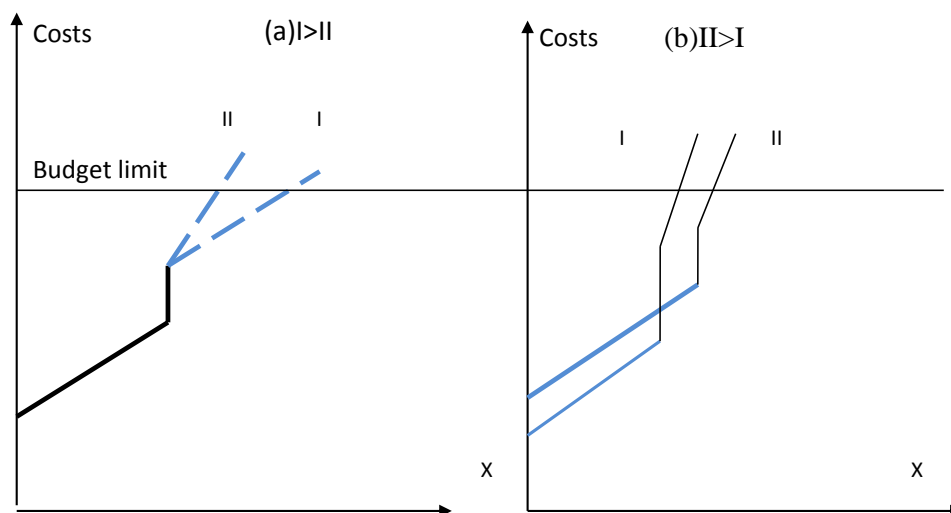


Figure 8 Better machine park for management of type II

Source: Authors

The process and machine park based approach show the advantage to integrate the adaptation of production with respect to time, quantity, intensity of equipment use and to machine quality (Gutenberg 1982) discussed in business administration. If other types of management prevail, the rules are principally kept, but the cost curves are too high and steep. If cost assessments of management of different types are wrong, too costly – investment decisions might occur.

Management types of type II is assumed when applying the quantitative tools of economic investment criteria, which are discussed in public project literature and in public finance and in applied regional economics. Tools to evaluate investment or other management decisions are based on the literature of Chapter 1 and are presented in Box 1.

Box 1: Tools to evaluate investment or other management decisions (Based on the literature in Chapter 1)

- Listing of motivations of decision-makers and assigning them to results
- Formulation of criteria to evaluate management (investment) alternatives, see above
- Profit oriented investment assessment
- Benefit-Costs-Analyses(Net benefit analysis)
- Costs-Effectiveness-Analyses
- Utility-Analyses.

Box 2 Net-Benefit Analysis (Literature see Chapter 1)

- Social Benefits and social costs of investment or management alternatives are expressed in monetary terms
- Willingness to pay approach
- Net benefit: Consumer surplus + turnover + payment for benefits from external effects
- Producer surplus (rents in purchase factors) + costs + payments to avoid negative external effects
- Direct measurement: consumer surplus, turnover, producer surplus, costs
- Indirect measurement : evaluation of external effects, e.g. Value changes in property, additional rents turnover, insurance payments, time gains, hypothetical demand curves, additional costs, payment for damages, insurance measures, opportunity costs, corrected prices (shadow prices), time losses, income losses and gains
- Social rate of discount
- As investment criteria the formulas of private investment accounting (literature see chapter 1) serve:
- - present value $K = t(SB_t - SC_t)/(1+i)^t - E \quad t: 1, \dots, n; E$ investment amount, SB_t social benefits, SC_t social costs
- - internal interest rate $i^* > i$ bank
- - annuity method $nb = K * i^* (1+i)^n / ((1+i)^n - 1)$

Box 3 Cost-Effectiveness-Analysis (Literature see Chapter 1)

- For a given sum of costs the investment which allows most effective goals achievement is determined.
- Main steps:
 - Operational formulation of single goals with respect to time, region, group of affected economic units, content, measurement (scaling)
 - Choice of goals expressing advantages
 - Defining costs to demonstrate disadvantages
 - With more than one goal for advantages not really possible to identify favourable actions
- The analysis turns out satisfactory only if there is one measure superior to all other measures
- Comparison of goal achievement of goals Z of investments of same costs, then $Z1 > Z2$
- A kind of cost effectiveness analysis criteria to evaluate according to management type I
- under given costs
- under cost coverage constraint
- The same is true under management type III when the investment of maximal internal employment is determined for (a) a given sum of costs or (b) under cost

Box 4 Utility analysis (Literature see Chapter 1)

- Goal formulation as in Cost-effectiveness analysis
- Hierarchical goal system
- Weighting of goals
- Evaluation according to weights of low-rank goals that result from goal and weighting system
- For elaboration of a microeconomic theory of administration we turn to utility functions
- One formulates a utility function just as those of Management type I to IV, or a situation related welfare function
- An investment must show positive utility
- The investment with highest utility is the best
- The utility is determined by multiplying achievement of lowest rank goals by the multiplication of weights at the various level of the goal tree concerning goals referring to the lowest rank goal $U = g_1 * z_1 + g_2 * z_2 + \dots + G_n * z_n$

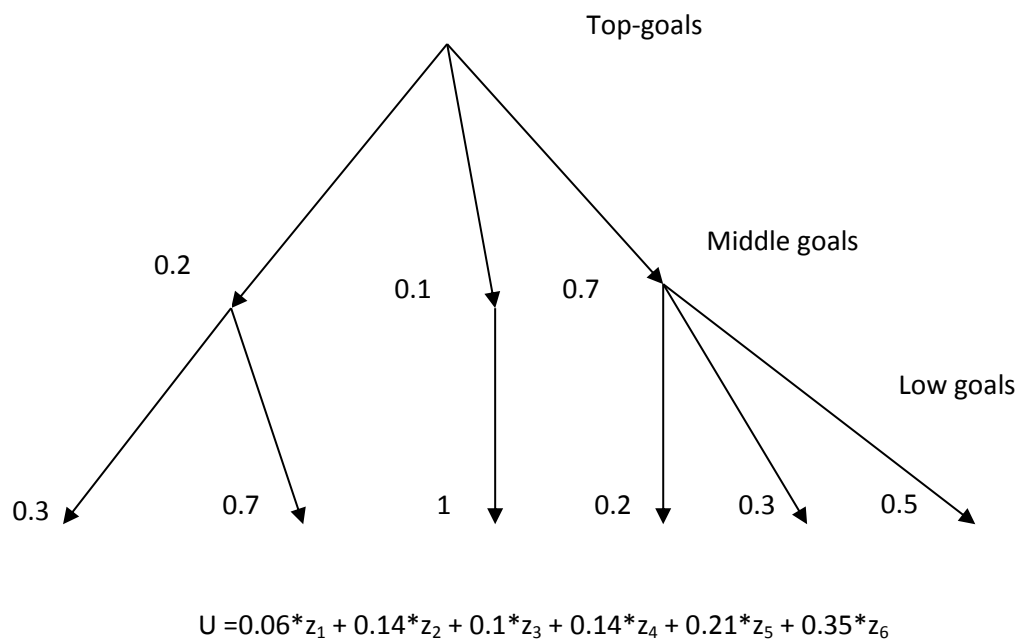


Figure 9 Scheme of utility analysis

Source: Authors

The commercial static **investment accounting** is applied to find cost saving processes and equipment (see also Chapter 1). The commercial dynamic investment accountings are applied to find cost saving processes, etc., if costs are distributed differently in time. Cost effectiveness analysis can be applied as long as the achievement of public and management goals can be expressed in terms of public output and if one goal is considered (see Box 1 and Box 3). For utility analysis (see Box 4) and benefit-cost analysis (see **Box 2**) the impacts of the activities on other economic units have to be measured and need the consideration of the other plans of economic units. This is beyond this chapter and needs coordination theory with other economic units and further economic impact theories to apply.

Moreover, it must be considered how the managers of different types are going to use the tools for their purposes.

The extension of the model above can also be directed to special public management decision alternatives. One which is important concerns the **location of the public office**. A simple case refers to a Launhardt-Weber model. (Launhardt 1885, Weber 1909, Drezner, Klamroth, Schöbel, Wesolowsky 2004). They looked for a cost-minimal location assuming:

- 2 places (deposits) to transport production factors from and one place of clients where to transport a final good
- An ideal transportation system exists, Euclidian distances prevail, transportation costs are proportional to weights of goods and factors
- Minimization of transportation costs

Minimization of transportation costs leads to the proposition:

Marginal costs of moving the location in one direction (x) have to be equal to moving the location in the other direction (y).

When factor prices and production functions are location dependent and external costs and agglomeration effects exist two optimality conditions evolve (Friedrich 1976):

Marginal costs of moving the location in one direction (x) have to be equal to moving the location in the other direction (y) considering location and distance dependent factor prices, external costs and agglomeration effects. Relation of marginal product equals relation of factor prices at the location chosen.

The Launhardt - Weber approach can be integrated in the model of the optimal plan of a public office. We introduce distance dependent factor prices and location dependent production function. The following optimal conditions result:

- **The utility change of management by moving the administrative unit in one direction must be equal to that in the other direction.**
- **Relation of utility changes of management caused by input changes equals the relation of factor prices**
- **Analogous results achieved when introducing other goals: e.g. Net benefit maximisation:**
- **The net benefit change from moving the administrative unit in one direction must be equal to that in the other direction.**
- **Relation of social benefit changes caused by input changes equals the relation of social cost changes.**

Other location theories such as theories of landscape (Christaller 1933; Lösch 1944), location theories with several decision-makers (Friedrich 1976), the high school problem with several decision-makers (Isard, Smith, Isard, Tung, Dacey (1968) and further theories developed in location theory can also be applied.

The microeconomic model of the public office points also to a microeconomic growth theory of the public office (Friedrich 1984a). The main growth factor is the budget. If the budget increases all growth indicators with respect to the single public office will increase. The public sector growth

theories discussed in public finance, e.g. the law of increasing state activities do not refer to an individual growth theory of the public office.

2.3. The Optimal Plan of A Net Public Office (Public Enterprise)

As defined in the first chapter a net public office is a **public enterprise**, which has its own revenues and own budget planning. It can be also an agency or a quango with an own budget feed in relation to its services.

Again some **simplifying assumptions** are introduced:

- The management of the public office shows a utility function depending on output and labour.
- Production depends on capital K (materials) and labour L.
- The revues $p(x)*x$ equal the expenses for labour q_L*L and for capital (materials) q_K*K and the fixed factor K_F . There is a cost-coverage condition.
- The public enterprises possesses a monopoly on the sales market

The **public office maximises utility and covers costs**. This occurs by maximising the Lagrange function:

$$V = U(x(K,L),L) - \lambda(p(x(K,L))*x(K,L) - q_K*K - q_L*L) \rightarrow \max$$

$$\delta V / \delta L = \delta U / \delta x * \delta x / \delta L + \delta U / \delta L - \lambda * ((\delta p / \delta x * \delta x / \delta L * x(K,L) + p(x(K,L)) * \delta x / \delta L) - q_L) = 0$$

$$\delta V / \delta K = \delta U / \delta x * \delta x / \delta K - \lambda * ((\delta p / \delta x * \delta x / \delta K * x(K,L) + p(x(K,L)) * \delta x / \delta K) - q_K) = 0$$

$$\delta V / \delta \lambda = p(x(K,L)) * x(K,L) - q_K*K - q_L*L - K_F = 0$$

From these first order conditions result **two optimality conditions**.

The first optimality condition is: $(\delta U / \delta x * \delta x / \delta L + \delta U / \delta L) / \delta U / \delta x * \delta x / \delta K = ((\delta p / \delta x * \delta x / \delta K * x(K,L) + p(x(K,L)) * \delta x / \delta L) - q_L) / ((\delta p / \delta x * \delta x / \delta K * x(K,L) + p(x(K,L)) * \delta x / \delta K) - q_K)$

The first optimality condition implies that the relation of marginal utility equals the relation of marginal profits.

The second one yields $p = (q_K*K + q_L*L + K_F)/x$, implying that **the price equals the average costs**. Fixed factor F and fixed costs K_F are considered.

In **Figure 10** the model is shown in a graphic form. The figure shows the solutions in terms of output X, labour input L and service price p according to different types of management. For comparison a new type the profit maximising management is introduced as type V.

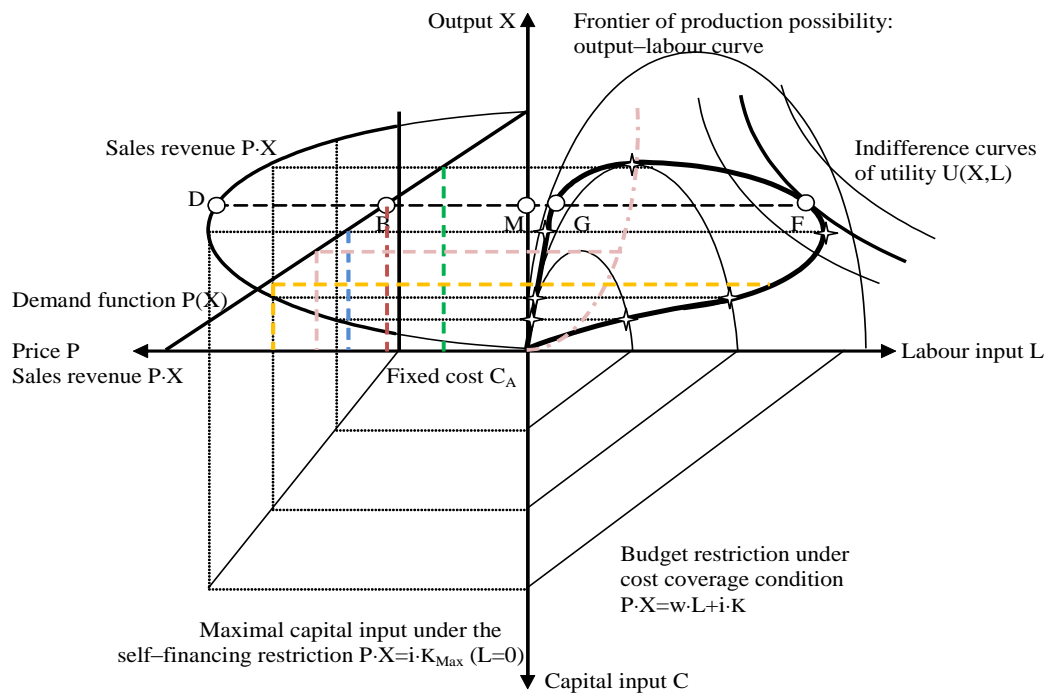


Figure 10 The model of a public enterprise

Source: Dehme, Friedrich, Nam (2009)

In the left part of **Figure 10** exists a demand curve and a turnover curve. The turnover offers the public office a budget to cover its costs. To achieve the turnover it has to produce and sell an output x in a cost covering way. There are for each output and corresponding turnover two ways to produce cost covering. There can be either material intensive or labour intensive production, which are reflected by a left and right point on the thick black line. If a profit occurs the production is between the two points, e.g. on the violet line. The black line shows a solution space where the solutions can be. Then there is for each type of management a set of indifference curves. Where those sets touch the thick black line there is a corresponding solution. Therefore we achieve different solutions for each type, I to V, of public management.

Type II and type V are **cost efficient**. However, type II and type III produce more than the profit maximising public office. With a so-called **privatization** normally the provision of services to the clients are reduced and the service price becomes higher. Only if the public enterprise is governed by type IV management will the price shrink and the output increase. As shown in **Figure 10** the prices appear, respectively $p_{II} < p_I < p_{III} < p_V < p_{IV}$ and the quantities as $X_{II} > X_I > X_{III} > X_V > X_{IV}$ for different management types.

This model also helps to detect **reaction to public management** of the public enterprise. If the fix costs are increasing then there is less budget out of the sales. The thick black curve contracts and moves in the direction of the zero point. Then for types I, II, III, the outputs decrease and the output decreases. For the profit maximising enterprise V the profit is reduced but the output and price keep the same as the costs increase, the profit gets cut but the mode of production with respect to materials and labour does not change. However, the solution point for type IV moves to the left and up and this type of public management is increasing its output and lowering the price. If factor prices change the black line moves inward if both factor prices are increasing and we have a similar reaction. However, the output of type V is reduced and its price is increased. If one factor price is increased and the other is kept constant, the black solution space undergoes changes. It becomes smaller and especially at that side where the factor intensity is high (e.g. if labour is becoming more

expensive the shift is more to the left. With type I, II, III, IV the output shrinks and the price increases. With type IV the price can shrink and the output might increase to a small extent. If the demand curve gets reduced the turnover shrinks and the turnover curve moves in the direction of smaller volumes and lower turnover. Therefore, the solution space moves inwards again and the public management reduces the volumes with the exception of type IV and increases the prices. However, the movements depend also on how much the demand curve decreases and in which way this takes place. A change of types of management through I, II, III, IV, V etc., show output reductions and price increases. This points to the importance of management ethics and that privatization may not improve the welfare of clients. In many treatises on privatization it is assumed that the change from type II, type III, and type IV to V increases cost efficiency and therefore a better welfare level of the clients. However, this is only the case if the factors saved get employed in welfare-increasing activities, which is not automatically the case.

Extended models of public enterprise including political goals, more goods on offer give insights into the public management of net public offices (Dehme, Friedrich, Nam 2009). Again the focus can be on including investment decisions in the optimal plan of a public enterprise:

- The optimality rule changes to: **Relation of marginal utility of factor variation equals relation of marginal profits through factor variation. One of the factors can be capital that is going to be invested.**
- The process oriented investment rules can be applied too. Instead of the fixed budget we have a turnover line in [Figure 11](#). The management should be of type II.

(a) If the critical volume can be sold at profits the process with the lower average variable costs is preferable.

(b) If the critical volume turns out to be larger than the turnover maximal output and cannot be sold at profits the process with the higher average variable costs is preferable.

(c) If the critical volume is smaller than the turnover maximal output and cannot be sold at profits the process with the lower average variable costs is preferable.

If the management is of type I, the rules can be applied but the cost curves are steeper. With type II and III only the case (a) on the [Figure 12](#) makes sense. However, the process with the higher variable costs will to be chosen.

The machine park rules turn to:

(a) The machine park is the better one where the last not totally used machine shows the lower average variable costs if all other machine capacities with lower variable costs are fully in operation.

(b) If new machines show lower average variable costs than the park with the new machines of higher capacity they are preferred. Again these rules are related to management of type II or type I.

From a growth model of a public enterprise (Friedrich 1969) and in case of management of type II follows: To (4) The interest payments caused by investment in new machines have to be as high as cost savings because of less use of other factors, if there is no restriction on the investment budget.

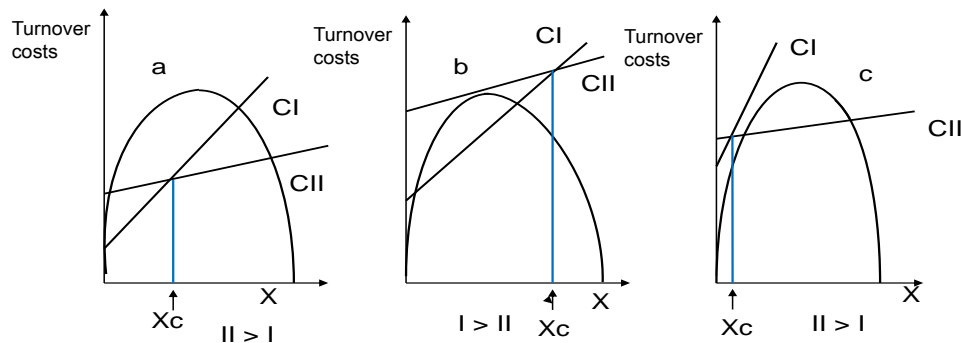


Figure 11 Process oriented investment rules

Source: Friedrich and Feng (2013)

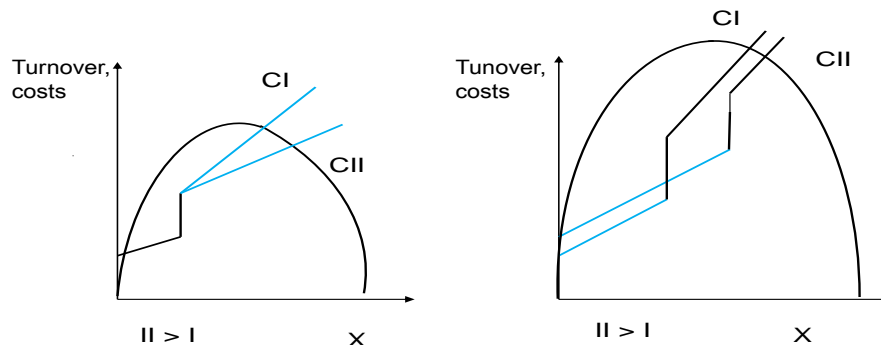


Figure 12 Machine park investment rules for a public enterprise

Source: Friedrich (1969); Friedrich, Feng (2013)

Investment accountings can be made according to the methods illustrated in the Box 1 - Box 4. As far as profits have to be calculated the commercial investment accounting methods are of more use with a net public office than with a gross public office. Again the limitations mentioned above are relevant and the different type of management may apply the methods differently when evaluating advantages and disadvantages.

By extending the basic model of the public enterprise by considering locations and applying a **Weber approach** (Launhardt 1885; Weber 1909; Palander 1935; Moses, 1958; Dredzner, Klamroth, Schöbel, Wesolowsky 2004, McCann 2002; Eiselt, Sandblom 2004) to determine the location of a newly established public enterprise (Friedrich, Feng (2013), points of delivery as well as deposits of factor

supply are given and an ideal traffic system exists⁵. We consider location dependent and distance dependent costs of supply and delivery. Therefore, variable costs are influenced by the choice of location. It now appears there are three **optimality conditions**.

One expresses that the proportion of marginal utility changes caused by factor changes must equal the change of marginal profits due to the variations. The second concerns equality of price and average costs. The third one requires that marginal transportation costs must be the same in either direction. If fixed costs are location dependent, total marginal location dependent costs must be the same in either direction. Possibly, the production function is location dependent as well. Then the first condition still holds, however, the third condition varies. The proportion marginal utility in either direction caused by respective movements equals the proportion of marginal profits resulting from these movements. Other typical location factors of public enterprises such as external costs, agglomeration effects etc., can be introduced through restrictions varying the optimality conditions for location (for a public office see Friedrich (1976, pp.150)). Only in the case of output maximisation locations are chosen at a cost-minimal place.

Again other location theories can be applied (see: Friedrich, Feng (2013)). Different management types lead to different solutions.

2.4. Horizontal Coordination of Public Offices

The horizontal coordination occurs between the public offices belonging to the same jurisdiction. This can happen according to existing coordination laws, by a higher ranking public office or by competition.

Coordination laws or directions may regulate the exchange of information or the delivery of other services. A law may link the production of two or more public offices through administrative assistance. This can be considered in the economic public office model by considering part of the output of one public office to be delivered to the other public office and by procurement of pre-services as a production factor, which might be expressed by a constant in the production function of the receiving public office. With the delivering public office there is a minimum production level, which has to be produced to deliver to other public offices. Then the above developed model can be applied again. Production links which are linear and fixed in technology can be shown by a Leontief production function and an input output table (Blair Miller 2009) of the public offices. The product that is delivered to private households and private firms is the final product.

In spite of an existing coordination law there might be the **assignment** of fiscal means between two or more equally ranked public offices where the upper ranking office or **decision-maker** can decide on budget proposals according to its evaluations, however the competing public offices have the right to offer alternatives (proposals) (see [Table 5](#), [Table 6](#)). The proposals show the strategies of the ministries called players. Player 1 has strategies A1, B1, C1, D1, E1 and player 2 possesses strategies A2, B2, C2, D2, E2. The outcomes for the players are the budget sizes assigned to the ministries (see [Table 3](#), [Table 5](#)). A government or ministry of finance has a preference order with respect to the budget proposals as follows: $A1 > A2 > E1 > B2 > E2 > D2 > B1 > C1 > D1 > C2$.

⁵Distances are not through traffic networks but the shortest way in the sense of Pythagoras

Table 3. Winning proposals if strategies are evaluated by ministry of finance

Ministry 1	Ministry 2					
	Proposals	Proposal A2	Proposal B2	Proposal C2	Proposal D2	Proposal E2
	Proposal A1	A1	A1	A1	A1	A1
	Proposal B1	A2	B2	B1	D2	E2
	Proposal C1	A2	B2	C1	D2	E2
	Proposal D1	A2	B2	D1	D2	E2
	Proposal E1	A2	E1	E1	E1	E1

Source: Authors

Table 4. Winning proposal and mini-max solutions

Ministry 1	Ministry 2					
		Proposal A2	Proposal B2	Proposal C2	Proposal D2	Proposal E2
	Proposal A1	300 200	300 200	300 200	300 200	300 200
	Proposal B1	150 350	100 400	150 350	480 20	5 495
	Proposal C1	150 350	100 400	380 120	480 20	5 495
	Proposal D1	150 350	100 400	480 20	480 20	5 495
	Proposal E1	150 350	490 10	490 10	490 10	490 10

Source : Authors

Table 5. Pay- off: Budget assignment if proposals are chosen by the ministry of finance

Proposal	Ministry 1, Ministry 2		Proposal	Ministry 1, Ministry 2	
A1	300	200	A2	150	350
B1	320	180	B2	100	400
C1	380	120	C2	95	405
D1	480	20	D2	10	490
E1	490	10	E2	5	495

Source : Authors

When the ministries prefer a larger budget to a smaller one, a **constant-sum game** results. Ministry 1 offers the proposal A1 and ministry 2 proposal A2. This is the **mini-max solution** (see [Table 4](#)) where all public offices make the offer which guarantees them from all bad outcomes because of the strategy of the opponent offering the best solution. The worst situation with strategy (proposal A2) can be 200, with B2 10, with C2 10, with D2 10 and E2 to 10. Therefore, the ministry takes A2 as strategy and achieves 200. For ministry 1 with strategy A1 the minimum pay off is 300, with B1 5, with C1 5, with E1 150. Therefore the best of the strategies for ministry 1 is to propose A1.

Other solutions may appear when the ministries are not maximising their budgets but if they want to get special projects financed, where a smaller budget may give a higher utility according to the project than a budget which is higher, but shows another content for expenditure. Many **theoretic game solutions** can be shown in this kind of horizontal competition between public offices under the same jurisdiction. They cannot be tackled all here (c.f. Schleicher 1971, Holler, Illing 2005). The games solutions also appear for the assignment of other resources such as locations (Friedrich 1976), for the assignment of staff, for the assignment of tasks, etc. Sometimes there are **other forms of coordination** responsible. The ministry of finance and government may adapt to citizens and develop its preference order according to citizens or voters wishes. Then the example above may also represent a pay off in votes (Friedrich 1976) or with respect to other goals like employment, investments, office set-ups in periods of transformation or times of recession, etc.

Horizontal coordination can be also influenced by **competition for clients**. This can be competition on the delivery side by non-price parameters of action. One of the possible parameters of action might be the delivery time or in a broader sense time expenses for the clients to receive a service. The possible client might prefer a provider if there are several available, which allows the lowest time/expenses to receive a service. The money price for receiving the service is from the side of the public office zero. It might be that the client has to go to the public office to receive a service or the public service is delivering the service or the service gets produced at the client location. If one assumes within the jurisdictional area there are two providers and if there are distance dependent time expenses and location dependent time efforts, then the time needed for the client results from the sum of the distance dependent and location dependent time to receive the service. An ideal traffic system is assumed for sake of simplicity. The time expenses for a citizen living in the jurisdictional area can be shown by cones of time expenses as illustrated in [Figure 13](#). If for both public offices the time dependent time expenses and the location dependent time expenses turn out the same then there is a competitive border between the two public offices a straight line dividing the distance between the two public offices half way. If the distance dependent time expenses for delivery from the public offices are different the border turns to the one with higher distance dependent time expenses and the border becomes a circle (see [Figure 15](#) When the distance dependent time expenses are the same whereas the location dependent time expenses differ one receives as a border a hyperbola (see [Figure 14](#)). When both types of time expenses are different one has an ellipse as a border. The borders differ with other traffic systems (Friedrich 1978), and under consideration of regional preferences (Friedrich 1978), and oligopoly models with time fixing (1978). There can be also consideration with other parameter of actions like prices in case of net public offices, public enterprises (Friedrich 1988).

Integration with the model can be achieved if time savings are a leading determinant for budget preferences of a ministry of finance or a government.

Competition may also exist on the resource side between public offices where the result becomes determined by the resource owners, e.g. the public officials if they are free to determine in which public office they can work or if public offices have to compete for real estate within the jurisdictional area to use. Then **procurement models** such as auction models can be applied.

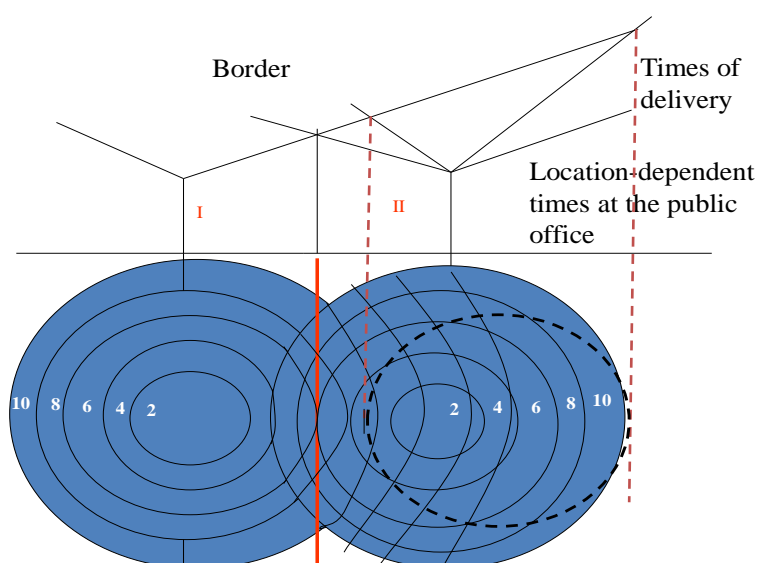


Figure 13 Competition border between two public offices causing equal and different time delivery expenses to clients

Source: Friedrich (1978)

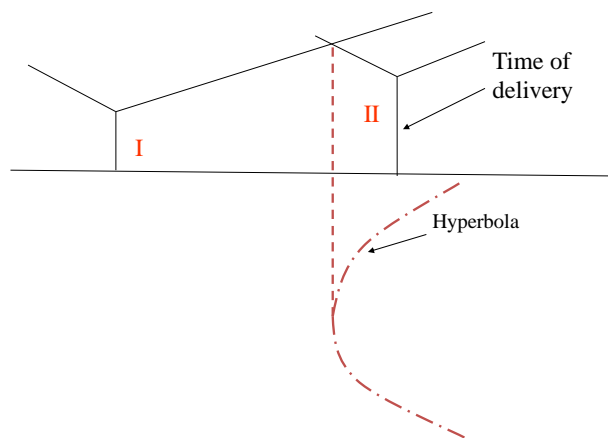


Figure 14 Competition border between public offices causing different location time dependent time expenses

Source: Friedrich (1978)

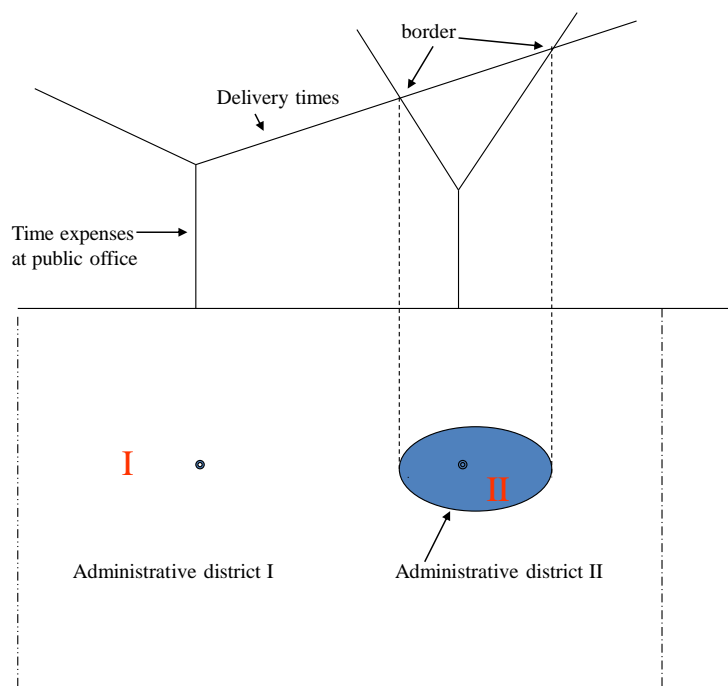


Figure 15 Border with different distance dependent and location dependent time expenses

Source: Friedrich (1978)

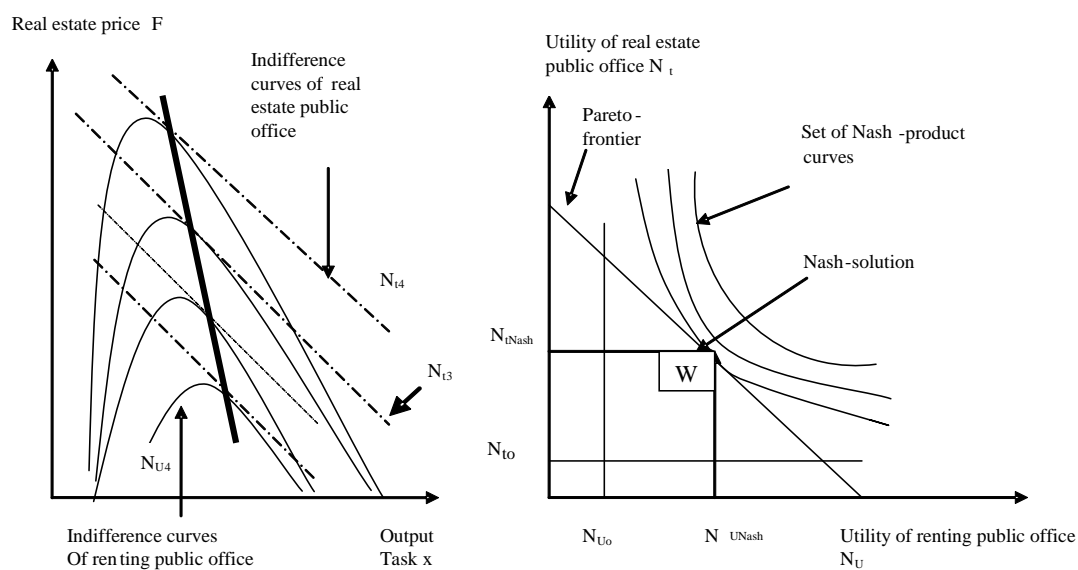


Figure 16 Negotiations between the real estate office of a jurisdiction and public office 1

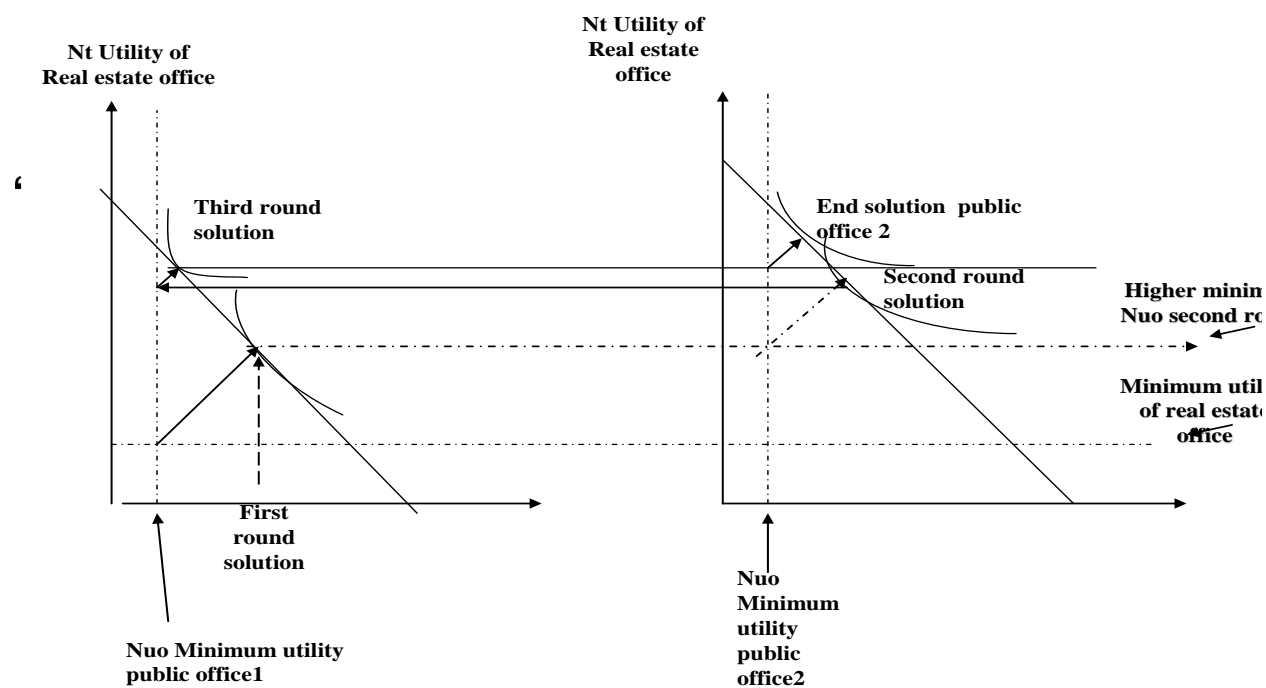


Figure 17 Competition for a real estate by two public offices

Source: Authors

A **central real estate office** that manages the real estate of an administrative district rents real estate to public offices for which two public offices of this administrative district compete. The real estate office possesses a utility function that shows that the real estate office wants a high rent but also provide incentives to provide a high output. The utility of the **renting public office** is increasing with a higher output and decreasing at high outputs. Both actors have a set of indifference curves as shown in the left section of

Figure 16. Where the indifference curves touch are Pareto optimal utility distributions concerning the two actors. They are shown also in the right section of

Figure 16. Out of those a solution for the negotiations between the two actors has to be found. By maximising the product of the differences between utility and a minimum utility of the actors a Nash solution can be determined at point W in

Figure 16.

However, there is not only one public office involved that wants to rent office space. This situation is illustrated in **Figure 17**. Public real estate office negotiates a possible contract with public office 1. Then public office 2 intervenes and also demands the space. What the first public office was willing to pay is the minimum utility of the public real estate office it wants to reach from the second public office. Then a new solution is found, which results with a higher rent. Now the first public office intervenes and offers to pay a higher rent with a further solution. This process ends if one of the public offices that rents the space is at its minimum utility and does not demand any more, the **end solution** in the left section of **Figure 17** is reached. This example of horizontal resource oriented competition is already involving vertical competition as well.

Such microeconomic models can be developed also for public offices and public offices that compete with that of other jurisdictions. This is the case between public offices of business promotion or among public enterprises. Here the competition is embedded in a **network of competition relations**, which are integrated in regional competition. There is planning competition between the top public offices of a jurisdictions, e.g. cities, and the competition between public enterprises, e.g. industrial parks, or public offices. This competition leads often to oligopolies in planning competition and monopsonies in sale negotiations of real estates (Friedrich, Nam. 2013). Complicated models follow. A management circle becomes incorporated (Lindemann 1999).

Horizontal cooperation between public offices occur mostly between and through jurisdictions, e.g. for schooling, water provision etc. between municipalities and their respective public offices. A modern form of cooperation among municipalities - and between central government and municipalities – seems to be the use of **Functional Overlapping Competing Jurisdictions (FOCJ)** (Frey, Eichenberger 2006; Friedrich, Eckhardt 2014). They, may assist to solve such problems as for example, the general education problem in Southern Estonia.

FOCJs are functional, overlapping, competing, jurisdictions recommended for organizing the production of special public services such as school services. They might be categorized according to their **members**:

- (1) FOCJ with citizens as members, e.g. school communities in Switzerland
- (2) FOCJ with jurisdictions as members, e.g. Association of municipalities for school services
- (3) FOCJ with jurisdictions, institutions of public and private law as members, e.g. communities, public schools, private schools
- (4) FOCJ with citizens and entities of private and public law as members, e.g. jurisdictions, associations, chambers of handicraft and commerce, firms and citizens interested in school activities.

According to the territorial reform and functional reform we concentrate on (2).

The following model can be used to explain and to describe the establishment of a FOCJ.

There are n municipalities i which could **form a FOCJ**. The **utility function of town i** is:

- (1) $u_i = c_i \cdot (x_i / \sum x_j) - b_i \cdot x_i$; c_i reflects **positive evaluation**, b_i shows **opportunity costs**, x_i demonstrates the resources, which stem from town from i , X is the sum of total resources of the FOCJ., XR are total sources without municipality i
- (2) $XR = X - x_i$
- (3) $u_i = c_i \cdot (x_i / (x_i + XR)) - b_i \cdot x_i = c_i \cdot (1 - XR / (x_i + XR)) - b_i \cdot x_i$
- Municipalities apply **autonomous strategy**. The **optimum share** of resources in an FOCJ result:
- (4) $x_i / X = 1 - (b_i / c_i) \cdot X$

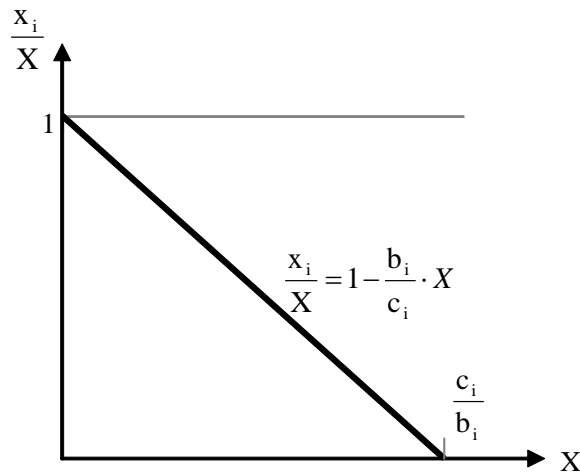


Figure 18 Best response of town i
Source: Friedrich, Reiljan (2011)

The optimal solution i.e. the optimal number of communities and an adequate volume for X is determined where the sums of the values of the optimal respond strategies adds up to one (see [Figure 18](#) and [Figure 19](#)).

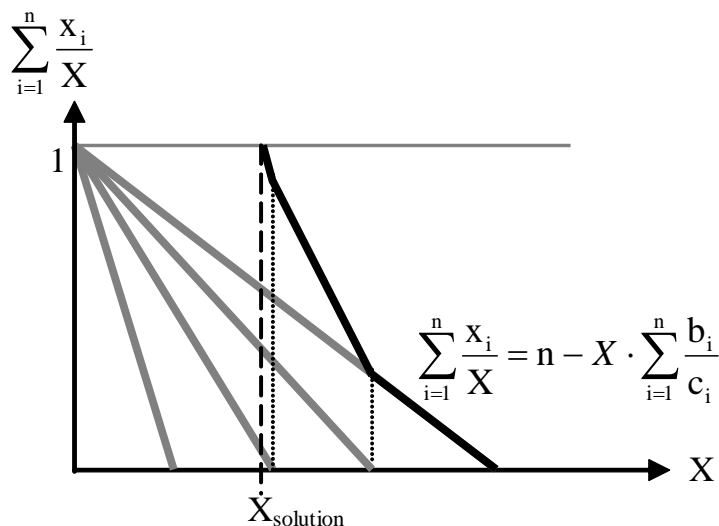


Figure 19 Solution for FOCJ establishment.
Source: Friedrich, Reiljan (2011)

The members have to pay a contribution that is equal to the costs per unit or in Estonia a share g of variable costs (e.g. per pupil, or related to resources dedicated to the FOCJ). There is a utility function of the FOCJ managers depending on labour and output, a production function showing output

depending on variable factors and fixed factor and a cost function. The FOCJ management maximises utility. This fits with the model above for the public enterprise.

Two optimality conditions result:

- The equivalence of the relationship of marginal utilities of marginal factor inputs to the proportion of respective marginal profits from contributions,
- contribution rate under the percentage of cost coverage.

The optimal contribution rate from the point of view of FOCJ Management is shown by point B in the Figure 20.

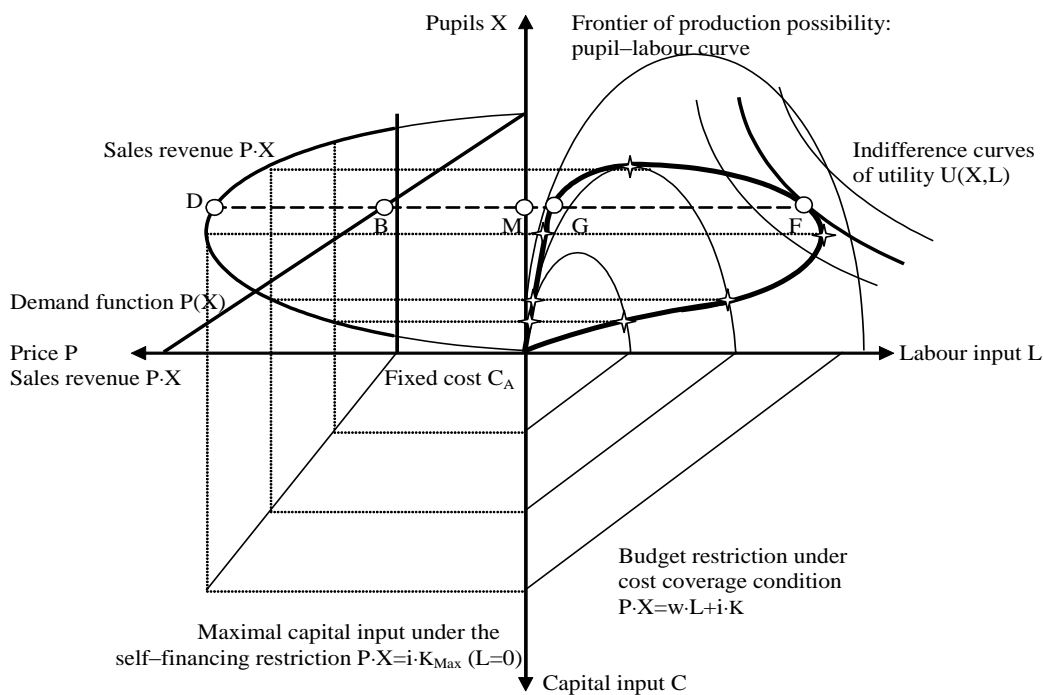


Figure 20 Formation of the FOCJ contributions

Source: Authors

The establishment and the current contribution for cooperation can be explained in this way by the application of microeconomic public office theory. There is also the possibility to create a cross-border EGTC (Friedrich, Eckardt 2014). Another possibility is to establish in the framework of public private partnership (Budäus 2004) a mixed enterprise or a contract PPP. For the formation of a mixed enterprise a similar model for the FOCJ can be developed, however the goal functions of the private partners will be different.

2.5. Vertical Coordination of Public Offices

Vertical coordination also takes place in various ways depending on the prevailing management concept of a jurisdiction. There are general coordination procedures or individual **coordination** measures. The co-ordinations can refer to goals, tasks, programmes, financial planning (budget), other planning of resources (e.g. staff, capacities, outputs), and parameters of action such as individual decisions to fix service conditions, law firm, location, production techniques etc. These situations reflect **principal-agent relations** between a higher ranking public office (parliament,

governmental ministry, etc. and a public office or public offices of lower rank. As fiscal planning is of high importance we describe the setting of the budget of an agency, quango, public enterprise by a simple model.

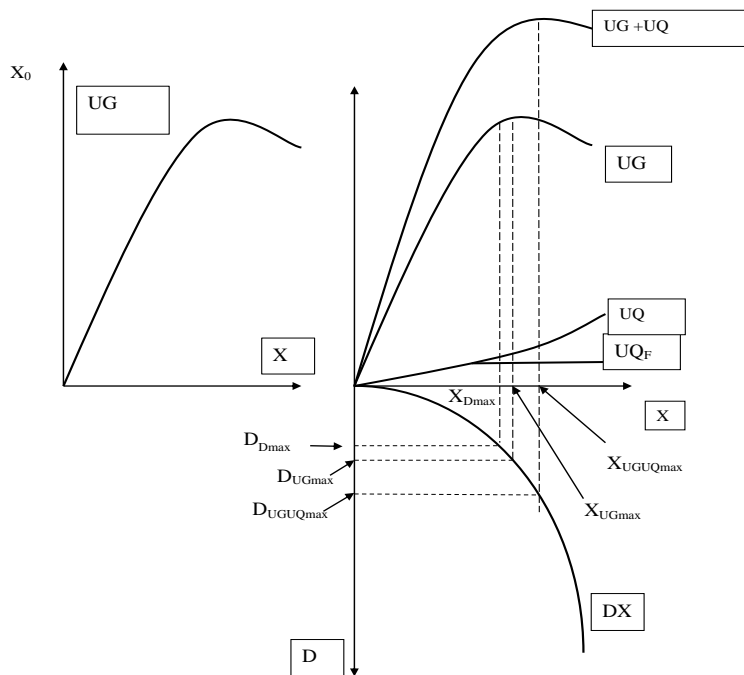


Figure 21 Principal-agent solutions

Source: Friedrich, Ukrainski (2013)

The higher ranking public office (principal) and the lower rank public office (agent) influence each other through vertical coordination according to power situations, manager types etc. The principal needs the agent to produce the services and the principal provides the budget. In **Figure 16** in the left part the dependence of utility on output is depicted. The lower right hand picture shows the relation between budget size and output x and the upper right hand part the relations between utilities and x . The utility UG is achieved. To ensure the cooperation of the agent, the agent must attain a minimum utility expressed by UG , which the principal has to enable.

At first one may assume that the **principal is rather powerful** and determines the budget size, but gives UG to the agent. By maximising $UG(x) - UQ(x)$ one obtains the principal: the agent solution at $UG'(x) = UQ'(x)$. The budget becomes D_{max} . If the **UG plus the minimum utility** is maximised, the solution is at budget $D_{UGUQmax}$. When the **agent receives a constant amount of utility** when he produces x the principal determines the budget at D_{UGmax} .

In the case of the **agent being more powerful** and both have to come to an agreement they negotiate the budget. The first quadrant of **Figure 21** shows the utility function of the principal. The third quadrant shows the utility function of the agent. The fourth quadrant demonstrates the utility space of both and minimum utility conditions for both parties. The point E signifies the negotiation solution according to Nash. The result with respect to the budget is D_E .

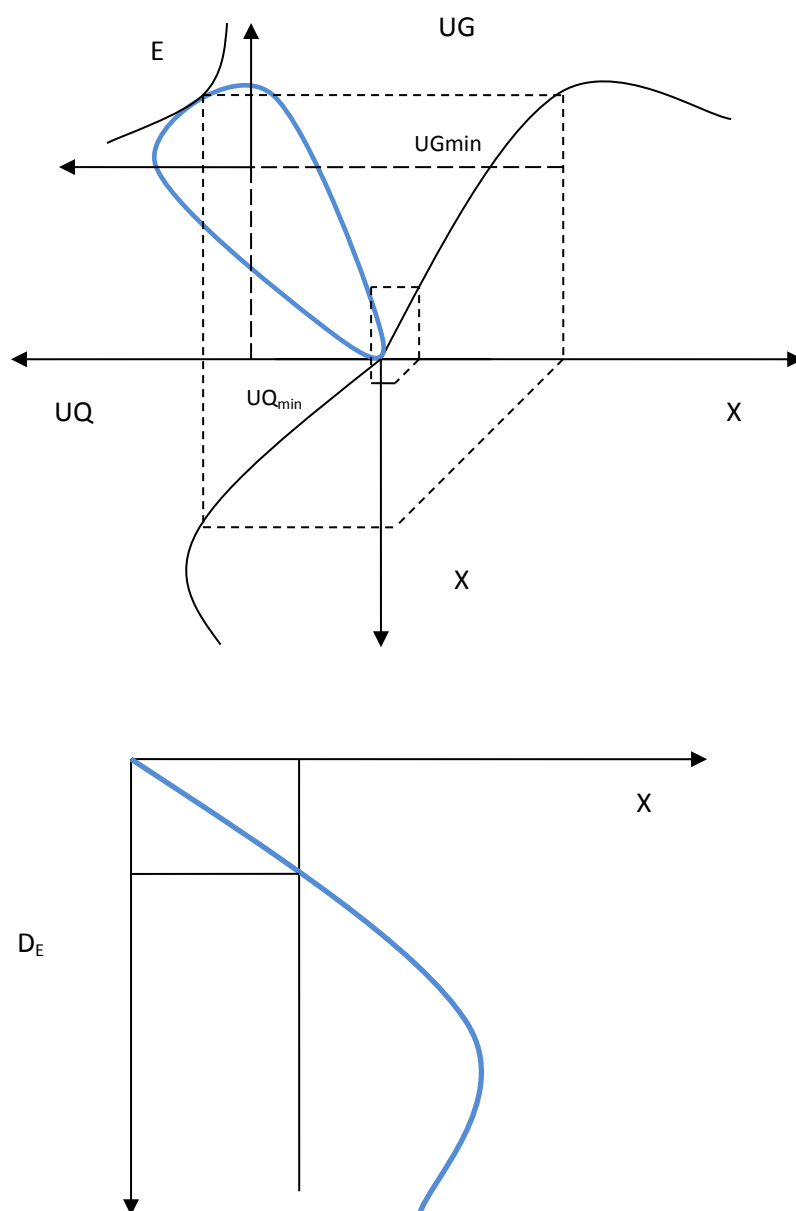


Figure 22 Nash solution of bargaining between principal and agent

Source: Friedrich, Ukrainski (2013)

If the agent has a linear or progressively increasing utility function in x he is trying to achieve a higher budget to be able to produce higher x and employing more labour according to the manager type. This behaviour coincides with the assumption of Niskanen that public offices try to maximise their budget (Niskanen 1975; Mueller 2003). In

Figure 22 that leads to a different solution space. It does not go back to the centre of the cross of coordinates, but leads back to the UQ axes with a higher value given the utility curve of the principal. The Nash solution might result a little more to the left.

Here we used the principal-agent model to model the relations of public offices. Normally the principal-agent model is applied to determine the **incentives the principal has to provide** if he has not enough information to know the exact output provided by the agent or if he has no information about the efforts of the agents. Although this situation can emerge in public research, the output of

many public offices are known and there are experiences about public officials' behaviour in an elaborated administrative branch.

As shown in the first chapter there often exists a **three level principal-agent system**. There are top-rank public offices (e. g. ministries, parliament), middle-rank public offices (e.g. directories) and low level public offices producing services to private households, private firms, etc. The implications can be shown by a multi-level principal-agent model. The vertical coordination is approved by budget coordination and the need of governmental public offices.

The model shows a top-rank administrative unit, a middle-rank administrative unit and two low-rank administrative units. They are coordinated through the budget process. The low-rank administrative units produce services for clients in their respective regions. In region 1 supplies low-rank administration 1 clients and in region 2 supplies low-rank administration 2 clients. The clients are also voters evaluated negatively (f_1, f_2) the financial burden through taxation to provide services and the amount of services received positively (i_1, i_2). The middle-rank administration allocates a total budget to the low-rank administrations according to an evaluation function concerning the outputs of the individual low-rank administrations. The top-rank administration fixes the total budget and maximises votes. The low-rank administrations act according to the microeconomic public office model.

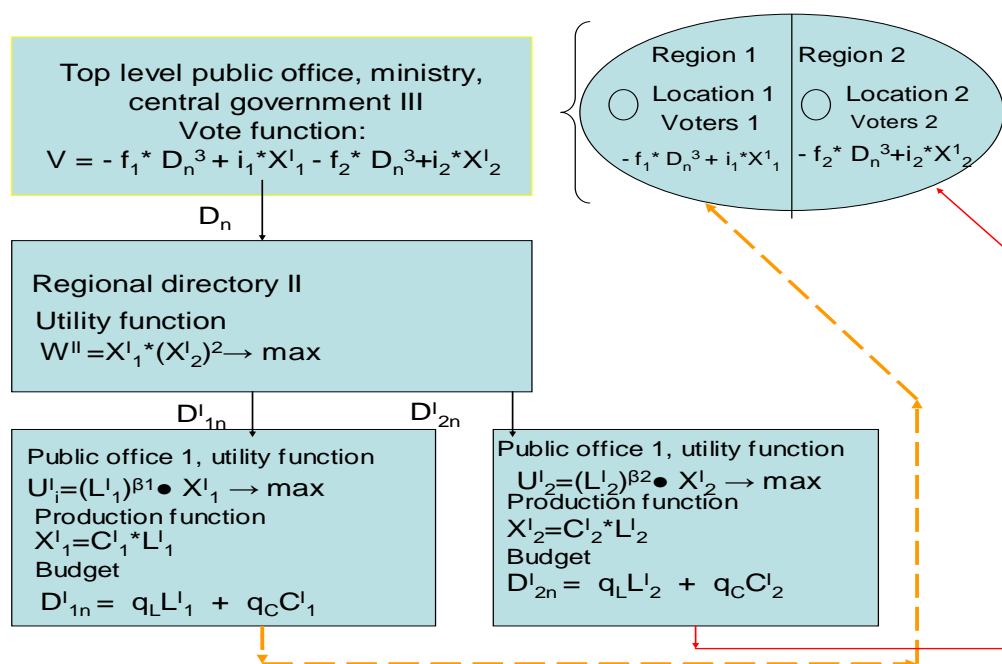


Figure 23 A multi-level and multiple principal model of an administrative branch

Source: Batey, Friedrich (2010)

These conditions are integrated algebraically and graphically (see [Figure 23](#)) in solving the low-rank administration models to obtain relations between the respective budget size and the respective output. The output is used as arguments in the evaluation function of the middle-rank administration. It allocates the given total budget by maximising its utility depending on the individual outputs of low-rank administrations.

The elaborated information about the relations between outputs and budget is considered in the voting functions where the variables depend on budget sizes. Top-rank administration maximises votes by fixing the total budget on the basis of the vote functions of voters. Maximising utility of low

rank I public office 1, and rearranging of terms yields: $X_{I1} = (1+\beta_1) \cdot (D_{1n})^2 / ((2+\beta_1)^2 \cdot q_L \cdot q_C)$. Such a relation is found for public office 2 too. Managers of public office II maximise utility under the restriction of $D_n = D_{1n} + D_{2n}$. The relation $2 \cdot D_{1n} = D_{2n}$ is evoked and the relation $D_{1n} = D_n/3$ results. In analogy one finds relation $D_{2n} = D_n/3$. By substituting X_{I1} and X_{I2} in the vote function and substituting D_{1n} and D_{2n} by the budget relation the vote function depends solely on D_n . Maximising votes for both regions by differentiation to D_n yields the optimal budget:

$$D_{\text{optimal}} = (2 \cdot i_1 (1+\beta_1) / (2+\beta_1)^2 + 8 \cdot i_2 (1+\beta_2) / (2+\beta_2)^2) / (27 \cdot q_L \cdot q_C \cdot (f_1 + f_2))$$

An approach for a **theory of 'optimal' budget** under the influence of managers utilities (manager types, here type I), the production conditions, the voting conditions, regions, and factor prices and voters sensitivity to higher output and higher budgets and voters sensitivity to higher output and higher budgets is elaborated. Effects of changes can be learnt from the optimum formula. Budget rises with higher productivity, higher preferences of voters for outputs, preferences of middle-rank administration for public office with higher productivity, with less preference of low-rank offices to labour. Budget shrinks with higher resistance of voters against higher budgets and with higher factor prices. The model can be extended to the application of further coordination instruments of top and middle public offices as principals. Moreover, several administrative branches can be looked at.

This approach was also used to model **different level jurisdictions within governments** (Feng, Friedrich 2002). Here the distribution of jurisdiction in governments belonging to different parties plays an important role in determining the "optimal" budget.

Single coordination measures such as the determination of specific purpose grants can be analysed by using the model shown in **Figure 21** and

Figure 22 where the vertical axes will show the size of the grant and the contract curve between a higher ranking public office (or jurisdiction) and a lower rank one becomes a vertical line (Friedrich, Gwiazda, Nam 2004). It also can be applied to other single coordination measures in planning, realisation, auditing etc.

Vertical coordination takes place between the relevant jurisdiction and net public offices (public firms). Again we use a principal-agent version of our model and refer to the monopoly case concerning the public firm, which might be a municipal enterprise. The financial target F of the negotiating municipality and its valuation is expressed by gF – see the upper part of the **Figure 23**.

The municipality and the local enterprise negotiate fixing the financial target F as well as the volume X to be produced and the fee P to be charged. The utility of municipality U_G depends on output X and its contribution F to the municipal budget ($U_G = X + g_F \cdot F$). The utility of management of the public firm U_U depends on output X and employment L . Both negotiators want to realise at least their minimum utility level. The situation of the firm shows production, demand, cost and finance functions. Corresponding to the individual financial target level F , a different utility-maximising output level X and the related fee result. The bold utility frontier curve in the upper part of **Figure 23** shows the combination between X and F of the municipal enterprise. In addition a set of linear indifference curves of the municipality (U_G) is also illustrated. At the point of tangency between U_G and the bold utility frontier curve of the municipal enterprise the best solution for the municipality exists, which is however, the worst one for the municipal enterprise. The best solution for the municipal firm results when the financial target is set at zero. As derived above an area for possible negotiation solutions referring to financial contribution, the output volume X , the fee, and the respective utilities of the negotiators are determined. Such utilities (U_G and U_U) are depicted in the lower part of the Figure. By bargaining according to Nash, a solution R is found when minimum utility conditions are considered. The fee is again determined.

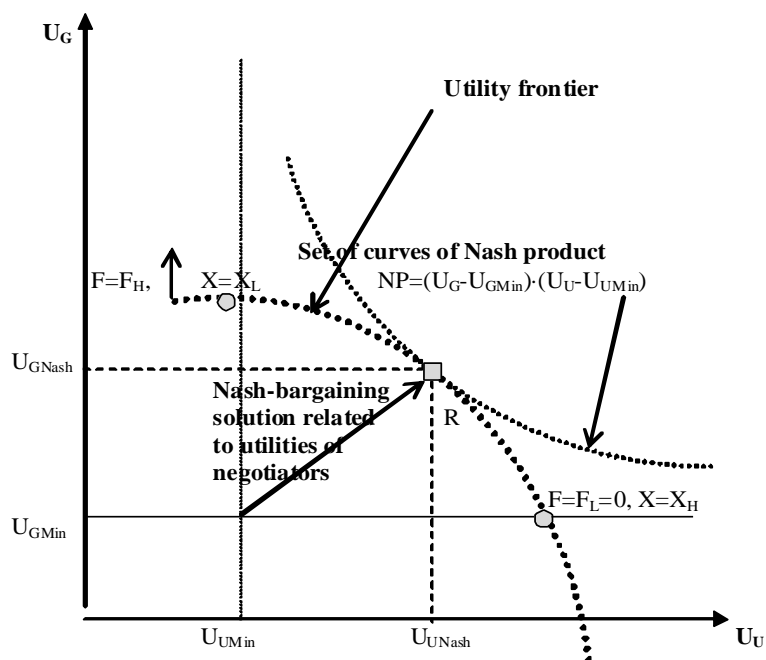
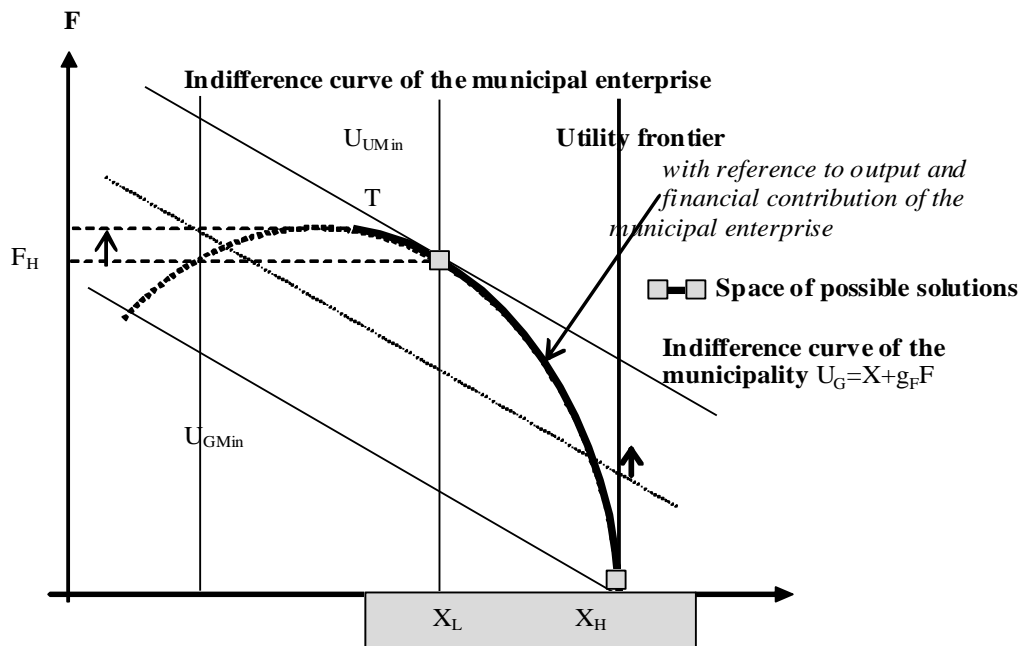


Figure 24 Vertical negotiations between municipal owner and municipal enterprise

Source: Feng, Friedrich (2000)

The indifference curves of a municipality become less steep when the municipality is interested in higher financial contribution.

Horizontal competition between municipal enterprises (airports, cultural enterprises, etc.) can be introduced as well. Then the g_F becomes higher and the indifference curve of the municipality flattens. The new point of tangency with the utility frontier in the upper part of **Figure 24** is situated more to the left. This causes in the lower part of **Figure 24** a shift of the utility frontier upward. A new Nash solution can be determined which shows a higher utility in favour of the municipality and less in favour of the municipal enterprise management. The price will rise. If the situation of the municipal enterprises is competitive the municipality will use the municipal enterprise for competitive purposes by initiating higher output (e.g. Tallinn local traffic company). Then g_F shrinks, and a lower financial contribution of the municipal firm and lower price results.

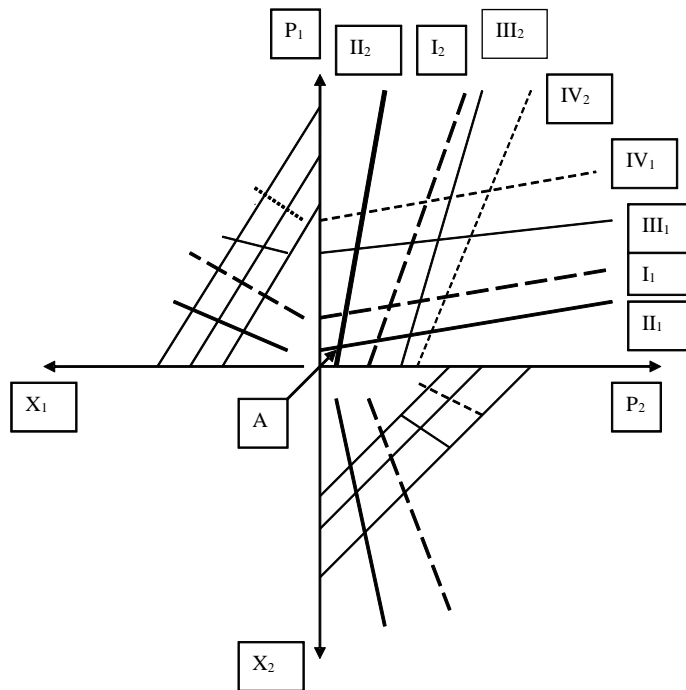


Figure 25 Horizontal competition between municipal firms and fiscal transfers to owners

Source: Friedrich (1998), Friedrich, Ukrainski (2013)

For a given financial contribution policy of the owner **Figure 25** shows the solution for a municipal enterprise when the financial contribution required by the municipality is zero. If the municipality demands a profit the solution space moves inward. That happens with the type I and type II solutions type III solution shows a reduced labour input but keeps the output and type IV management maintains its turnover maximal output. type IV changes the solution in the direction of lower price and higher output. In competition with other municipal enterprises of other jurisdictions the demand curve of the municipal enterprise depends on the actions of competitors. In a Launhardt-Hotelling framework of a duopoly between two municipal enterprises of different ownership possible best responses result – when the financial policies are fixed -for a given price for the competitor in **Figure 25**. The fourth and second quadrant show the demand curves for given prices for the competitors, the prices the competitors fix if they are of a different type and in the first quadrant are the best responses of the management of different types depicted. The Launhardt-Hotelling solutions (Friedrich 1998) are situated in the crossing points of the best response paths. If both competitors show management II the solution A results. There are 16 crossing points, therefore, 16 solutions if the same or different management types compete. The effects of vertical coordination through fixing the financial transfers to the owners can be detected. If more financial means are required by the municipalities 1 the type I, II response curves move up and the respective solutions turn up and right

in the direction of higher prices. Type III curve does not move and the prices are stable. type IV response curve moves downwards and the prices shrink. The tendencies are enforced if the second municipality also wants to increase the profit transfers from their enterprise. One is able to determine price movements if the municipalities follow different financial policies.

Other models where vertical coordination and sales are integrated consider the sale of real estate in the course of transformation in an economy, in case of disarmament forces, the promotion of business, innovation policy, etc. There a plot of land or ruined firm can be sold by the jurisdiction to a municipality and from there to private entrepreneurs. With the three level models several Nash solutions can be formulated (Feng, Friedrich 1993).

The theories provided here allow to elaborate a microeconomic theory of gross and net public offices in order to analyse their behaviour if organizational and structural changes are planned. From the teaching point of view the instruction is very much eased if the students had passed a high level microeconomic theory course.

2.6. Microeconomic Effects of Public Management Actions

The microeconomic effects of actions of gross or net public offices on other offices can be partly detected by the microeconomic theory discussed in this chapter. There must be also introduced technical dependencies between the public offices to be mentioned in the third chapter. There are many open research questions referring to a theory of coordination of public offices to identify effects of public offices on each other. Therefore, the concepts of public management have been developed. They have for public sector organization a similar function as the concepts of economic order such as free market economy, social market economy, socialist market economy, centrally planned socialist economy, centrally planned Christian economy, consumption planned economy, etc. (Giersch 1960).

As many public goals are realised by causing changes of behaviour and economic results of other economic units such as private firms, private households, etc., the consequences have to be investigated. This has been done in the framework of public finance and the main interest there deals with the effects of monetary measures but many of the models can be extended to other measures as well. Not only the effects as such are considered but also the correct form of intervention, e.g. characteristics of a tax, to achieve the public goals intended. The public finance literature especially of the Anglo-Saxon type considers a welfare maximising omniscient governor who wants to choose the correct form of intervention to achieve his aims. But this is not the appropriate way for analysis – as mentioned in the first chapter – to analyse public management. However, it is useful in detecting the reactions of private economic units on actions of public economic units.

Therefore, the microeconomic analysis of revenue and expenditure effects offers many insights to be used in public management. Since the models and theories are discussed in **public finance theory** they are not repeated here (see Musgrave, Musgrave 1989; Timm 1975; Neumark 1975; Kullmer 1975; Nowotny 1999; Zimmermann 1999; Brümmerhoff 2001; Auerbach, Feldstein 2002; Hindriks, Myles 2006; Shoup 2006).

With **taxes** the main microeconomic effects on private firms and private households are discussed in **incidence and shifting theory**. (Timm 1975, Nowotny 1999) There it is discussed how the incidence should be defined, e.g. as profit reduction, income reduction, utility reduction and how the economic units can shift the incidence to other mainly private economic units, considering short-term effects,

long-term effects, different market forms, and risk situations. In most cases caused by incidence which can be shifted partly to other economic units. As mentioned above this analysis can be also applied to public offices and to public enterprises (Friedrich 1979, 1981). Effects on prices outputs, etc., become elaborated. Then there are models to determine the microeconomic effects on investments, the choice of capital intensive production procedures, under different finance conditions and depreciation methods, loss compensations, etc.

The effects on **consumption** of a private household can be identified and the problem of an excess burden of a special consumption tax is debated (Grambeck 2003, Rose 2012). There are also models to detect the influence of taxation on the savings of a household (Timm 1975). Further models concern the effects on labour supply of a household (Keuschnigg 2005).

Consequences of taxation on the achievement of **goals of economic policy** and on justice and equity are determined, promotion of housing, of employment, of innovations, and recommendations for the shaping of taxes and fiscal taxation for structural, stabilising, growth, environmental goals, intergeneration equity and distributive goals formulated. The efficiency and the equivalence principle as basis for taxation are discussed (Blankart 2008).

Such analyses are also performed with respect to **subsidisations and transfers** as expenditures. These analyses of revenues and expenditures can be applied to detect the effects of all measures, which are reducing revenues and incomes and the utility of private economic units or increasing costs or increasing revenues, increase costs, incomes, profits, outputs, etc. There are also discussions about bureaucracy shifting. The literature on fees is related to the effects of public offices.

Additional knowledge is provided through theories about the effects of **public credit finance** of jurisdictions or net public enterprises which are important for financial and fiscal public management. The special literature (Wagner 2004, 2012) offers insights on liquidity management and debt management of jurisdictions. We already mentioned effects on the budgeting processes of the public offices of a jurisdiction.

The literature on **fiscal intergovernmental relations** (Sharma 2012) offers hints to organize and shape the fiscal vertical and horizontal fiscal equalisation among jurisdictions, but also for fiscal relations between public offices. There are contributions to detect the effects of block grants, special grants and on indicators of tax capacity potentials or expenditure needs indicators and publications on tax and expenditure sharing and tasks coordination between the jurisdictions. Helpful are also contributions on **budgeting**. (Wagner 2012).

Microeconomics are also attempts to identify effects in the framework of **micro economic total or nearly total models** with a social welfare oriented public sector (Myles 2002).

The lectures on public finance deal with the character of the state, the volume of state activities, the microeconomic effects of state activities, the macroeconomic effects of state activities, financial planning, and fiscal federalism.

2.7. Reading List for Students

- Chapter 2, this instructional material.
- Chapter 2, Hoover, E.M., Giarratani, F. (1999) An Introduction to Regional Economics. E-book available at: <http://www.rri.wvu.edu/webbook/giarratani/contents.htm>

- Lane, J.-E. (2002). Transformation and future of public enterprises in continental Western Europe
- Vickers, J. (1995). Concepts of competition, Oxford Economic Papers, 47 (1): 1-23
- Kattel, R., Suurna, M. (2008). The rise and fall of the Estonian genome project. Studies in Ethics, Law, and Technology, vol. 2 no 2, pp. 1–22.
- Roness, P.G. (2007) Types of State Organizations: Arguments, Doctrines and Changes Beyond New Public Management. In: T. Christensen and P. Lægreid (eds): Transcending New Public Management. The Transformation of Public Sector Reforms. Aldershot: Ashgate.
- Revelle, C., Marks, D., Liebman, J.C. (1970) An Analysis of Private and Public Sector Location Models, Management Science, Vol. 16, No 11, Theory Series (Jul., 1970), pp. 692-707.
- Greve, C. Flinders, M. and Van Thiel, S. (1999) Quangos - What's in a Name? - Defining Quangos from a Comparative Perspective, Governance, 12, 2, 129-47.
- Bouckaert, G., Peters, G. (2004) What is available and what is missing from the study of quangos? Pp. 22-49 in Pollitt, C and Talbot, C. eds. Unbundling Government London : Routledge, 2004.
- Greve C., Flinders M., van Thiel, S. (1999). Quangos – What' Name? Defining Qquangos from a Ccomparative Pperspective. An International Journal of Policy and Administration, 12, (2), 129 –46.

2.8. Teaching Methods

I Interactive lecture concerns the approach and parameters of a plan of a public office (based on sub-chapters 2.1 and 2.2.). The students are encouraged to identify parameters of actions in different kinds of public offices during the lecture. The lector is also discussing what are quangos, qualgos, agencies? (Friedrich, Ukrainski, 2010), what are the main problems in studying quangos? (Bouckaert, Peters 2004) and as practical case describes the development of quangos in different countries (selected from the Greve Flinders, van Thiel, 1999; Roness 2007; Kattel, Suurna, 2008). The lecture prepares the theoretical knowledge base for solving analytic exercises in Seminar II.

II Seminar is devoted on exercises like number 1 and 2 on the exercise list. The exercise number 1 is a typical microeconomic exercise, where the utility function, the production function, cost function and management type can be varied to teach the mechanics of the model and for finding the optimal solution in case of different management types. Exercise number 2 is more demanding as it requires the identification of the parameters from the text and then discussing the possible outcomes based on the model. This seminar is aiming at developing the skills for analysing, synthesizing, critical thinking and problem-solving (general learning outcome no 3).

III Interactive lecture concerns the approach and parameters of a plan of a public enterprise (based on Sub-Chapter 2.3). The students are encouraged to identify parameters of actions in different public firms (also municipal firms) during the lecture. The lecture prepares the theoretical knowledge for solving analytic exercises in Seminar IV.

IV Seminar is devoted on exercises like number 3 and 4 on the exercise list. The exercise number 4 is a typical microeconomic monopoly exercise, where the demand function, the production function, cost function and management type can be varied to teach the mechanics of the model and finding the optimal solution in case of different management types. Exercise number 4 is more demanding as it requires the identification of the parameters from the text and then discussing the possible outcomes based on the model. This seminar is aiming at developing the skills for analysing, synthesizing, critical thinking and problem-solving (general learning outcome no 3).

V *Interactive lecture* concerning the horizontal competition of public offices (based on sub-chapter 2.4.). At first, different concepts of competition are discussed based on Vickers (1995, homereading is required beforehand). The students are encouraged to identify different examples where the competition among public offices can occur (among agencies, ministries, public firms etc). The lecture prepares the theoretical knowledge for solving analytic exercises in Seminar VI.

VI *Seminar* is devoted on exercises like the exercises 5-8 on the exercise list. The exercises are simple versions of competitive vs cooperative solutions. If the course is taught in a more advanced student group (with regard to the game theory), more complicated game-theoretic exercises can be constructed based on the examples in textbooks of Osborne (2004) and Morrow (1994). This seminar is aiming at developing the skills for analysing, synthesizing, critical thinking and problem-solving (general learning outcome no 3).

VII *Interactive lecture* concerning the vertical competition of public offices and the microeconomic effects of management decisions in public units (based on sub-chapters 2.5 and 2.6). The students are encouraged to identify different examples where the vertical competition between of a ministry and a public office can occur (or more complicated situations of several principals and agents are involved). The question is also discussed, how these relations can vary in time and which motives are behind (based on Wiseman et al. 2012, homereading is required beforehand). The lecture prepares the theoretical knowledge for solving analytic exercises in Seminar VIII.

VIII *Seminar* is devoted on exercises 9-10 on the exercise list. The exercises are very simple versions of competitive models. If the course is taught in a more advanced student group (with regard to the game theory), more complicated game-theoretic exercises can be constructed based on the examples in textbooks of Osborne (2004) and Morrow (1994). This seminar is aiming at developing the skills for analysing, synthesizing, critical thinking and problem-solving (general learning outcome no 3).

IX *Seminar* is foreseen to reflect upon some contemporary developments in public enterprise discussion. The students have to prepare by reading at home Lane (2002) containing a description of the development of public enterprise policy in Europe until 2000s. The students are asked to write 1 page-answer to the following questions:

- What are the main characteristics of the old model regulating public enterprises in Europe?
- What are the main characteristics of the new model regulating public enterprises?
- Bring out the main behavioural consequences of the new system and give the overall assessment to the new system.

The seminar begins with the general discussion based on the homework to reach to the common understanding and to prepare for the following activities in the seminar. The students are asked in the seminar to select one case (one public enterprise) from the audit of National Audit Office of Estonia "Organisation of management of public undertakings" available at:

<http://www.riigikontroll.ee/tabid/206/Audit/2298/Area/4/language/et-EE/Default.aspx> for further investigation. They will find the answers to the following questions:

- What are the main characteristics of the public firm you have selected?
- What are the main characteristics of the model regulating this particular public enterprise?
- What are the problems found by Audit Office with respect to that firm?
- Can you suggest a solution based on Lane (2002)?

The students have to write a 1 page report on the questions. Both reports Lane (2002) and case report are graded.

Together this chapter would require teaching activities in 8 lectures, 12 seminars and 26 hours individual work.

Assessment criteria for assessing the achievement of specific learning outcomes are the following (based on Hansen 2012 with authors additions):

1. Assessing, collecting and organising existing knowledge (teaching activities I, III, V, VII, IX)
2. Displaying the command of existing knowledge (teaching activities I-IX),
3. Interpreting existing knowledge (teaching activities I-IX),
4. Applying existing knowledge (teaching activities I-IX),
5. Interpreting and manipulating quantitative data (II, IV, VI, VIII, IX),
6. Communication skills (teaching activities I, II, IV, V).

The methods of assessment of the knowledge are based on assessing the problem solutions for activities II, IV, VI, VIII (for assessing the criteria 1, 2, 3, 4 and 5). The reports of the activity IX are assessed for content adequacy with respect of the specific learning outcomes as well as style and literacy. The communication and participation in discussions is evaluated by the instruction of Carlson and Velenchik (2006:73-74).

2.9. Questions for Repetition

Sub-Chapters 2.1 & 2.2.

1. What is an economic plan of a public office or a public enterprise?
2. How differs an economic plan from a public management concept?
3. What are demand-oriented public goods? How are pure public goods defined?
4. Why play the notion of public goods an important role in public finance but not in public management?
5. What cost function must be assumed for the solution of the Bouwen model of public goods provision?
6. Critize the Wicksell model of public goods!
7. Explain the Samuelson model of public goods!
8. Why are those approaches not useful for public management?
9. How get goods defined in public finance, in business administration, in firm oriented microeconomics and in national accounting?
10. Which definition seems of use in public management?
11. Which questions relevant in public management can be answered more easily by a supply oriented interpretation of public goods?
12. State parameter of actions of public offices and public enterprises! Assign them to the spheres and sections of a public office or a public enterprise!
13. Which assumptions are introduced to evolve a simple model of a public office?
14. How get the conditions for an optimal plan of a public office found?
15. Which optimality rule gets derived for a public office?
16. Under which condition shows the optimal plan a cost minimizing solution?
17. Draw a graphical solution!
18. How reacts the public management if the budget changes, the factor prices change, the production function changes and the working time changes?
19. How reacts the public management on a tax on fixed costs, a tax on variable costs, a tax on one factor, a tax on value added?

20. How can the public office be influenced by management coordination of higher rank public offices in the field of utility function (public goals), of output regulations, staff restrictions, budget variations? Show the reactions of public management of the public office!
21. How to define types of public management of a public office?
22. Show graphically to which solutions of optimal plan lead the different types of management?
23. How changes the optimal plan when the type of public management changes?
24. Which public management type changes seem favourable for the clients of the public office?
25. How can public investment be considered in the framework of the optimal plan of one public office?
26. Which investment rules result from a process approach, a machine park approach and out of a growth of public office approach? Which type of public management is normally assumed?
27. Which investment accountings exist? Which seem applicable for a public office?
28. Which investment accountings need the assessment of impacts on other economic units?
29. What are the optimality conditions for the location of a public office under the conditions supposed by Lanunhardt-Weber?
30. Who should according to the supply oriented notion of public goods provide atomic electricity by atomic power stations?
31. State examples of public offices with management of type II, and with management of type IV! Of which type is the according to your opinion the management of the faculty of economics and business administration.
32. How can the type of management be changed?
33. How should a public office be influenced to increase the output? Apply the model of the economic plan of the public office!.
34. Which methods of investment accounting do you know?
35. What are the limits of the internal rate of return method in a public office.
36. Explain the cost-effectiveness analysis! Discuss its limits!
37. How can it be applied in a public office?
38. Which are the limits of Benefit-Cost-Analysis, which difficulties of application arise for one public office?
39. Give examples for utility analysis in the University?
40. What kind of analysis is the scorecard analysis of the University of Tartu.
41. Which of the investment rules basing on the optimal plan of the public offices, the processes, the machine park or the growth rule are easy to apply?
42. How moves the location of a public office if in one region the number of clients increase, if the price of a factor increases, if more of a factor is needed to produce one unit of output, if the transport of one factor becomes more expensive as long as they minimize costs. Suppose the managers are of type I. What happens if managers start to favour one production factor or get more interested in higher output?

Sub-Chapters 2.3&2.4

1. How differs the economic plan of a net public office (public enterprise) from the economic plan of a public office?
2. How differs the economic plan of a public office from that of a household or a public firm?
3. Which kind of goods get provided by public enterprises?
4. Which additional assumptions have to be introduced?
5. Which optimal conditions result?
6. Why do they differ from pricing rules such as marginal cost pricing principle taught in public finance?
7. Which utility function of the management will bring about the marginal cost pricing rule?
8. Show the model in graphic form and explain the curves you are drawing!
9. Which curves become changed when the demand for the output drops? Which curve changes when the working time is enlarged leaving the wage per hour not changed?

10. How reacts the public enterprise on a tax on fixed costs, the tax on variable costs, the tax on one production factor, a value added tax?
11. What management type can be considered and how should they be introduced in the model?
12. Do private firms really maximize profits?
13. How differ the solutions for the optimal plan according to the different management types?
14. What follows from changes of management type from I to II, from I to III and from one to IV. Which advantages are expected from privatization. How get the clients affected?
15. How can the model of the public enterprise be linked with the problem of investment? Which investment rule results?
16. How can the process oriented, the machine park oriented rules and the growth oriented rule of investment applied to public enterprises?
17. Which management types get supposed?
18. Why seem the chances to apply Benefit-Cost-Analysis better in public enterprises than in public offices?
19. Why do managers in public firm often apply commercial investment accounting methods?
20. Which optimality conditions result if the Launhardt –Weber model and the optimal plan of a public enterprise get integrated?
21. What restrictions have public enterprises to face in comparison to private enterprises?
22. In which market forms appear public enterprises? Is monopoly the normal case? Give examples in Estonia!
23. Are public enterprises normally one product or multiproduct enterprises?
24. How differs the economic model of a public enterprise from other models in public enterprise literature?
25. Evolve the marginal cost pricing principle on basis of optimality conditions for a Pareto optimum or on basis of a benefit cost analysis!
26. What are peage, the Ramsey rule and so-called commercial rules. Give examples!
27. What is peak-load pricing?
28. What is the Averch- Johnson effect?
29. Is the owner in the model of the public enterprise considered?
30. Evolve the Launhardt-Weber- Model in algebraic form!
31. For which mode of transportation seems the Launhardt-Weber Model adequate?
32. Discuss the objectives and procedures of location choice! (Hoover, Giarratani, Ch.2 subchapter 2.2)
33. Discuss the location factors and their relative importance! (Hoover, Giarratani, Ch.2 subchapter 2.3)
34. Discuss spatial patterns of differential advantage in specific location factors! (Hoover, Giarratani, Ch.2 subchapter 2.4)
35. Discuss the transfer orientation in location theory (Hoover, Giarratani, Ch.2 subchapter 2.5)
36. Discuss the locational aspects in the theory of production (Hoover, Giarratani, Ch.2 subchapter 2.6)
37. Discuss the main points in which public and private location decisions differ! (Hand-out from the lecture or Ravelle, Marks, Liebmann (1970): pp 692-695).

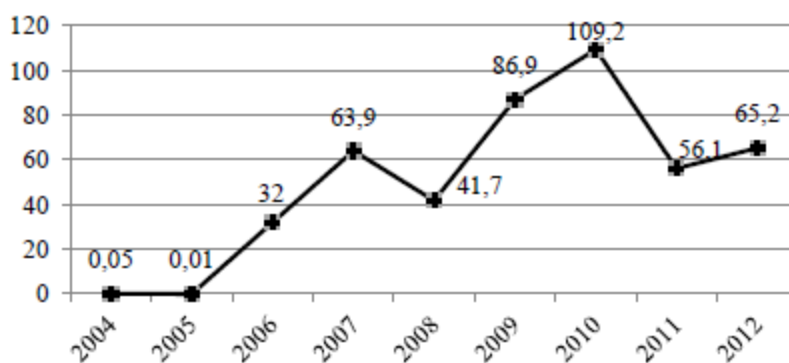
Sub-Chapter 2.5-2.6

1. Which microeconomic effects are treated in public finance?
2. Which shifting models do you know?
3. What shifting and incidence of taxes on fixed costs, variable costs, of total costs of turnover taxes in case of monopoly, nearly perfect competition, imperfect competition and oligopolies?
4. Show the tax effects on labour supply as consequence of income taxation!

5. Develop a model of identifying the effects on consumption!
6. How do you model the tax effects on savings?
7. Change the taxation models to incorporate subsidization of firms and transfers to households!
8. Formulate models of fiscal equalization! Repeat models of grants!
9. Demonstrate the budget procedure prevailing in the central state of Estonia!

2.10. Exercises

1. Based on an article of Kont (2010) concerning the libraries in Nordic and Baltic countries try to sketch a model following Figure 5 and Figure 6.
2. What types of management are involved and how would that impact the outcomes? Are there any differences across countries? Source: Kont, K.-R. (2010) Electronic Scientific Information in Technological University Libraries in Nordic and Baltic Countries, Proceedings of the Institute for European Studies, Journal of Tallinn University of Technology, 7: 192-211
3. Determine the optimality conditions for a public office! The utility Function is $U=L^\beta X$, the production function is $X=L*C$, The budget function is $D=q_L L + q_C C$. The price of labour (wage) is 8 and the price of factor $q_C = 2$. How big is the output? How high is the output if the management is of type II?
4. On the following figure, there are depicted dividends paid by Eesti Energia, a public company solely owned by Estonian Government, to the national budget (million €)



Source: Tõnurist, P. (2013) based on annual financial reports of Eesti Energia Ltd. 2004-2012.

- a) What dynamics in the other action parameters of this public enterprise can you assume based on these data?
 - b) What impact on the economy can such developments bring?
 - c) Compare the data with the size of public budget and relate it to the economic development of Estonia.
5. (Adapted from Hindriks and Myles 2006) Consider a monopolist operating the underground in one European city with a total cost curve given by $c(x) = 15 + 5x$. The monopolist sets two prices: a high price p_h and a low price p_l . everyone is eligible for the high price, but only taking the tube outside the peak hours is anyone eligible for the discount price. Suppose that the only off-peak travellers are those who are not willing to buy the ticket at p_h .

- a) If the monopolist faces the inverse demand curve given by $p(x) = 20 - 5x$, what are the profit-maximising values of a high price p_h and a low price p_l ? [Hint: Let the x_h and x_l denote the high-price and low-price quantities, respectively. Then the profit for the price discriminating monopolist is $p = p(x_h)x_h + p(x_h + x_l)x_l - c(x_h + x_l)$].
- b) How much economic profit does the monopolist take?
- c) How much profit would be made if the same price would be charged to all buyers (no price discrimination)? Discuss the difference to part b).
- d) How would the solutions change if different management types would be considered?
6. (Neus 2007) The two municipalities are planning for a joint project for offering the public service together. The project works only if both are working together and in that case they are obtaining the revenues in the amount of 350 000 € annually. However the municipality A loses the 63 000 € and B 8 000 €. The question is how to split the revenues is raised, therefore:
- (a) Calculate, which proportions according to the Nash-solution should the municipalities have?
- (b) Justify the division.
7. (Neus 2007) Two small municipal governments are considering to offer in their premises kindergarten places and elderly home places. The costs for both are presented in the following table.

Product	Municipality	
	1	2
Kindergarten place (k)	200	300
Elderly care place (e)	100	200

The municipality 1 has in total 8000€ annually and municipality 2 has 12 000€ annually for that purpose. Both municipality managements evaluate the utility from the services in a similar way $u_i = k_i e_i$.

- a) If the municipalities decide individually, which amounts of both services and respectively also which utility levels are obtained?
- b) In which municipality the relative cost advantages exist?
- c) Which number of kindergarten and elderly home places can be offered if both municipalities would specialise in one type of service and the places could be mutually offered for citizens of the other municipality?
- d) Find out, how could the total production be divided among the municipalities which would enable the higher utility for both compared to the solution in (a)?
8. Two municipalities discuss whether they should in cooperation supply two different service establishments (school and kindergarten places). The respective expenditures per 100 of places are in millions Euros in the following table

Product	Municipality	
	1	2
Kindergarten (k)	2	3
School (s)	1	2

The municipality 1 has 8 million euros and municipality 2 has 12 million euros to use for that purpose. As the residents of both municipalities are happy with having both types of establishments, the utility function of both municipalities is $U_i = k_i \cdot s_i$.

- a) Identify the number of school and kindergarten places if both municipalities are establishing the places without cooperation just by maximising their utilities. What are the utility levels reached?
- b) In which municipality the relative cost advantages exist?

- c) If both municipalities would specialise on one type of activity, which number of places would result?
- d) Which division of places would yield higher utilities for both compares to the solution found in a).

9. Vertical Competition Example of Municipalities with Government Decision

The possible consideration of horizontal competition is illustrated by the following example of two municipalities that compete for a location of public production (and also respective budgets) provided by a central government that allocates this budget to both of them. Hence, there are municipalities N and M as players who compete for budgets from a central government. They propose as their strategies budget distributions between them. The central government chooses the one it likes more. Each of municipalities has four alternative strategies, e.g. A, B, C, and D, as indicated in Table 1. According to the budget proposals going to be realized the municipalities expect utilities as pay offs demonstrated in Table 1. Government has a preference order concerning budget suggestions as following: $CN > CM > BM > AM > BN > AN > DM > DN$.

Table 1: Utilities of municipalities form budget distribution (realized budget proposals)

Budget allocation proposals	Municipality M, utility	Municipality N, utility
AN	40	200
BN	50	150
CN	60	50
DN	80	30
AM	150	60
BM	120	70
CM	100	90
DM	90	120

The Table 2 shows which budget suggestions are chosen if the municipalities offer budget allocation alternatives. For example, if N offers "BN" and M "AM" then AM becomes accepted because there is a preference for AM by the government. Table 3 shows the resulting utilities of M (left number) and N (right number) corresponding to the winning budget proposals. Both municipalities try to maximize their utility by making budget proposal on which the government decides, as to which of the suggested alternatives it accepts.

Table 2. Winning (accepted) budget proposals

Budget allocations	AN	BN	CN	DN
AM	AM	AM	CN	AM
BM	BM	BM	CN	BM
CM	CM	CM	CN	CM
DM	AN	BN	CN	DM

Table 3. Resulting utilities of municipalities

Budget allocations	AN	BN	CN	DN
AM	150,60	150,60	60, 50	150,60
BM	120, 70	120,70	60, 50	120,70
CM	100,90	100,90	60, 50	100,90
DM	40, 200	150,60	60, 50	90,120

Questions:

- a) What is a dominant strategy for M?
- b) What is the dominant strategy for N?
- c) What is the winning outcome?
- d) Which would be the best outcome for central government?
- e) Why was it not achieved?



3. Macroeconomics of Public Management

The specific learning outcomes of this chapter are:

- Understanding of the outcomes of decision-making in public sector at the macroeconomic level (contributes to the general learning outcomes no 2, 3, 4);
- Application of macroeconomic theory by revealing the public sector role and effects of its management, which further develops the skills for working with the academic literature in this field (general learning outcome no 2 & 3);
- Skills for critical assessment when applying macroeconomic theoretical models (general learning outcomes no 2 & 3);
- Knowledge about contemporary macroeconomic problems and discussions in Estonia and Europe (general learning outcome no 2);
- Review concerning the experience of respective policy outcomes when applied to practice (general learning outcome no 2).

3.1. Delineation of Public Sector

Macroeconomic problems are mostly not very important for usual public offices. The exceptions are mostly public offices dealing with planning and with large programs or offices where the administrative success is measured in terms of macroeconomic items, such as employment, growth, production structures, changes in income and property distribution, price level, financing conditions, etc. The effects and impacts determining the administrative success are to be measured European-wide, nation-wide, regionally or locally. Then a **macroeconomic measurement** and effect identification becomes necessary. **Public offices** are many times responsible for one jurisdiction or a district of one restriction. They are to be found on the **European level** (see [Figure 26](#)) where about 30 quangos are involved in budget performance (Friedrich, Ukrainski 2011). Those public offices as well as the European Central Bank, and the European Regional Development Fund have to detect European-wide, nation-wide and regional impacts.

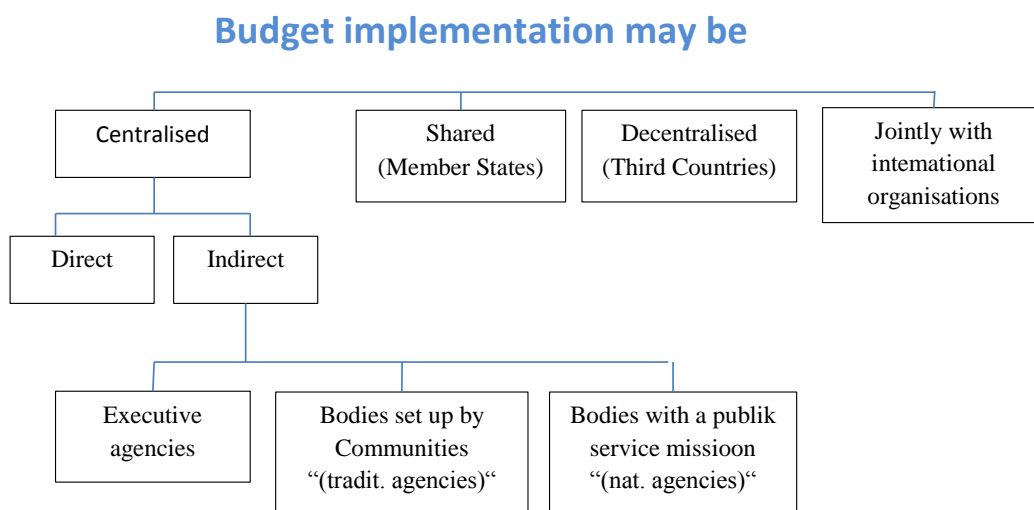


Figure 26. Budget implementation and European public offices related to macroeconomic effects

Source: EU-Commission (2014)

The same is true for ministries of the federal level or of a **central government**. Ministries of economics, of finance, of construction and city development, of defence, of traffic, of science and education are involved in determining the macroeconomic impacts of public management. With macroeconomic effects deal also special public offices concentrating on research, on promotion, on regions, etc. On the state or provincial level jurisdictions and their leading top public offices need information about macroeconomic impacts of programs and projects. They possess special research and educational public offices that deal with effects of public activities. The knowledge is basis for project evaluation and for sector and regional planning.

Cities want to know which are the fiscal, budgetary, economic, social and environmental effects of large projects such as traffic projects (e.g. magnetic train, metro, trams, railway lines, air ports, roads, garages), urban planning of quarters, energy provision (e.g. power stations, district heating), housing projects, firm settlements, large events (e.g. Olympic games, world championships, festivals), urban facilities such as parking lots, hospitals, slaughter halls, museums, operas, zoos, stadiums, cemeteries, churches, mosques, parks, monuments, etc., but also measures of security such as dyke construction, street lighting, police capacities, etc. In the planning of such large-scaled projects in the cities and districts are engaged the finance departments, urban planning and development departments, business promotion departments and agencies, and the public offices for the relevant tasks such as economics, traffic, public facilities, public utilities, sports, parks, cemeteries, culture, schools, security, etc.

There are **European regulations** but also national or state regulations in regional policy and planning or fiscal planning (laws on fiscal activities and budgeting), which force jurisdictions and their relevant public offices to identify macroeconomic effects, e.g. to apply quantitative tools of investment accounting like benefit cost analysis.

However, in macroeconomic analysis there is mostly no reference to a single public office and their coordination. The **public sector** is usually treated as a whole or it is just assumed to have some characteristics like being bureaucratic (Mueller 2003; Hindriks, Myles 2006), or oriented to winning votes , etc. In the public finance literature dealing with macroeconomic effects analysis of public management the smallest unit of analysis are jurisdictions (often called governments) and not the public offices or public enterprises.

A basic and an essential problem, which is tackled in public finance and in literature on national accounting (Eurostat 1995; Brümmerhoff 2000) is related to the question of how to **define the public sector**. Which economic subjects should be included and how should they be aggregated, is still an open question. To identify the public sector for statistical purposes the **national accounting** deals with 3 categorizations, institutional types of economic units, local specialized units, units with homogenous production (Brümmerhoff 2000a). There are 4 sectors: non-financial capital corporations, financial corporations, private household and private non-profit organizations, and government. The sector government (here public sector) comprises non-market producers that are financed by taxes and compulsory levies and distribute income and property. Normally those public offices are aggregated in a **sector state**, which are gross public offices integrated in the budget planning of a jurisdictions and which do not cover at least 50% of costs by value of sales. The government comprises also net public offices showing own legal personality producing non-market goods (less than 50% of costs get covered by value of sales), but being mainly financed and audited by government. These are mainly public offices, which belong to territorial jurisdiction or to the social insurance. Also some pension insurances get defined as part of the government sector. Those which ought to cover costs or have to achieve a profit are not included in the public sector. They are dealt with in the private sector of non-financial corporations. Also those net public offices, which are very much related to the private economy are incorporated in the private sector of financial

corporations, e.g. central banks, public insurances. Some of them are even accounted in the sector households and non-profit institutions like public research institutes.

Therefore, the public sector - interpreted as government in national accounting - does not comprise all gross and net public offices. The **definition of the public sector** in national accounting is too **narrow**. Nevertheless, in macroeconomic analysis and in econometric analysis this biased information relying on the public sector's definition of national accounting gets applied. Other difficulties in measuring and expressing macroeconomic aggregates like consumption, investments, etc. follow from the **evaluation of public production**. As there are often no market prices available to evaluate output, public production is evaluated by costs and thus depends on what is considered or treated as a cost (e.g. purchased materials and services, incomes of officials, interests, depreciation, indirect taxes etc.). Therefore, rising costs signal higher public production. Other **difficulties** may also become evident, e.g. double accounting in public (government) consumption, the treatment of direct and indirect taxation, the treatment of levies to the social insurance, the booking and evaluation of public property as consumption and investment, and the interpretation of the public sector as a producer, consumer and both (Brümmerhoff 2000a). Therefore, the size of the public sector is statistically dependent on the features of national accounting used. It is rather similar and to some extent unified for the member states of the European Union, but very different compared to other parts of the world.

Additionally, there are big **statistical difficulties** in under-developed countries and in those countries which do not show a developed market economy with an intensive division of labour between economic units (e.g. much production may take place in families or within tribes). Then comparisons, growth models of economy and of public sector, econometric analysis of public sector activities and its consequences, etc. become rather problematic.

There is also literature, which deals with the **size of the public sector**. Some authors measure the size **in budget terms** (e.g. Musgrave, Musgrave 1989; Buchanan, Tullock 1962; Niskanen 1971). There is also the normative question of how big the public sector should be (Andel 1998). An omniscient social welfare maximizing governor would extend the public sector until the marginal social benefits equal the marginal social costs. However, this approach does not reflect the reality in public management as there is no social welfare function at hand and there are different governments and public offices involved in deciding. Therefore, political issues play an important role as was shown also in the microeconomic chapter. An ongoing discussion concerns the question of whether the public sector is too big or too small or whether it has just the correct size. There are several reasons why public sector may become excessive, e.g. non-existing direct relationship between revenues and expenditures ((Andel 1998), possibilities for shifting costs on minorities of citizens (Buchanan, Tullock 1962), parliamentary committees and bureaucracy (Niskanen 1971), waste (Andel 1998). Reasons which may lead to too small public sector are the resistance to payment of taxes (Downs 1965), difficulties in evaluation of public services (Downs 1965), advertisement for private goods (Galbraith 1958), pressure to reduce wasteful expenditures (Downs 1965), as well as restrictions to increase budgets (Andel 1998). But many influences on budget size stem from political constellations (see micro part) and from the social, economic and political situation public management has to cope with.

Another problem which is related to the defining of the public sector is the treatment of methods to express the influence and importance of the public sector. Without repeating the discussion in literature (Musgrave, Musgrave 1989; Hindriks, Myles 2006) the attempts to measure government's influence are unsatisfactory. The usual "state share" considers the sum of expenditures for government production and of transfers to gross social product, which is about 50%. However, one part of expenditures has to do with production and the other part has to do with redistributing what is already produced. The transfer expenditure does not refer to additional production. Therefore,

expressing the meaning of the public sector by relating expenditures for production and transfer to total production of the economy is not correct. The state share in production is on the one hand much lower (near to 25 %), but a little bigger because the public sector is defined too narrowly. That official **measure of state influence** is an unreal quota as items get added which are not part of the total set to which the share should relate. Moreover, many other quotas can be defined as well, which seem very high such as the share in taxation, the share in all expenditures, the share in all debts, the share in all relations between sectors. The last one is rather interesting as if one defines only two sectors (e.g. one public, one private) and wants to express the percentage of public sector in all relations, one gets 100%. Therefore, using such measures of public sector influence as indicators for a high or low activity of public sector are very problematic, e.g. the relation of public debts to gross social product.

3.2. Macroeconomic Effects of Public Sector Activities

The **identification of macroeconomic effects** of public sector management depends very much on the models that are used for reflecting economic dependencies (Woll 2000; Samuelson, Nordhaus 2005; Mankiw 2013). There are at least **two fundamental approaches** to demonstrate economic relations.

Keynes defined as general activity sections so-called 'markets': a 'goods-market', a 'financial market' and a 'real market'. 'The goods-market' shows how the households consume and save production, and how the firms invest. A so-called equilibrium is achieved when the firms deliver as much consumption goods as the households want. Then the investments equal the savings at the respective production. On the financial market the economic units demand money and the central bank offers money. An equilibrium is reached when the demanded money equals the supply of money. Both 'quasi-markets' are in equilibrium when both conditions hold together. In the 'real market' are shown the production activities, and the demand and supply of labour. The equilibrium there needs the equity of real wages to the marginal productivity of production and the equality of labour demand and supply. Total equilibrium prevails when all three 'markets' are in equilibrium. The disadvantage for public management is that the state is not explicitly built into such a system of equations developed by Keynes (Keynes 2012). There are only private households and private firms. However, the state is introduced by varying some functions and parameters. One can assume for instance that higher state investments increase the investments (of firms) and thus by moving the investment function have the effect on consumption, interests, production, etc. The same can be done by assuming higher taxes influencing consumption, savings, etc. Principally the effects are shown in the way that an omniscient governor is influencing by his activities the behavioural functions of the private households and of the firms.

This fundamental picture can also be used with respect to the **classical approach**. There are also the three 'quasi-markets' or activity fields. However, there are some different assumptions concerning the behaviour of households and firms. The households direct their savings to the interest rate and not as with Keynes to the size of incomes. Therefore, the investment and savings get equated through the interest rate. On the other hand the real (labour) market is supposed to be in a permanent equilibrium with full employment and the output is fixed. Equating investments and savings - through the interest rate - determines only which part of the output becomes consumed and which part becomes saved. In the Keynesian system, however, there can be unemployment because of rigidities in the labour market (fixed wages) or because money demand does not react any more on interests, and because savings depend on income and not on the interest rate. With respect to public management, the same criticism applies to the classical as to the Keynesian model in general. The public sector is left out from the picture. The public sector appears only by

interventions from outside by an omniscient governor. In the classical model the possibilities of public management are even more constrained. As production is fixed by full employment the public governor, e.g. by doing investment can just reduce the consumption.

Public finance analysis tries to solve difficulties principally in two ways. One way is to model effects in **partial macroeconomic models**, which show individual actions of public management on a part of the economy. The other way turns to voluminous macroeconomic total models (like CGE models) comprising all three activity fields ('quasi markets'). The assumption of an omniscient public manager is mostly introduced. Another alternative is to assume a rather passive public management only equating revenues and expenditures.

The literature looks at **expenditures for goods and services** and multipliers of the goods market are determined, which show the effect on income if the interest rate is kept constant (Musgrave 1959, Hedtkamp 1968; Timm 1975). They are normally positive. There are also multipliers for **transfers**. They turn out to be also positive but smaller than the expenditure multipliers. Then there are multipliers to measure the effects of **taxation**, which under the same assumptions as before turn out to be negative (Hedtkamp 1968; Timm 1975). Public managers shaping the budget of a jurisdiction but also of individual public offices must know the effects of revenues and expenditures they are planning. In some situations there are requirements by law, regulators or other governments that a budget or project financed has to be balanced.

Therefore, it is debated in the public finance literature what is meant by a **balanced budget**. For purposes of effect determination a balanced budget is often defined as the sum of tax revenues that is equal to expenditures for goods and services and transfer expenditures. This definition does not show all relevant revenues and expenditures, and the effects of transfers and of goods and services are different. If the expenditures for goods and services do not change and only transfers and tax revenues change by the same amount, there is no effect on income as both multipliers are of the same absolute size. If transfers do not change but the expenditure change equals the tax revenue change, we end up with the **Haavelmo** case (Haavelmo 1955) and a multiplier equal to one. This means that income rises by the same amount the expenditure changes. If the assumptions are varied the findings by Schneider (Schneider 1965) and Timm (1963) show that there is normally a positive effect on income but the multiplier is not necessarily equal to one. When using these findings a public manager must always keep in mind that there are restrictive assumptions prevailing with respect to the other 'quasi markets' and that the reactions of other public offices are excluded. There are also effects of changing the **structure of a balanced budget**. Rising income is expected if the expenditure for goods and services is increased and that for transfers is reduced. If taxation of high income earners is raised and that of low income earners is lowered by the same amount, an income increase is expected.

As the budgets are normally not balanced, the effects of **unbalanced budgets** have to be looked at. One-sided budget deficits caused by uncovered increases in expenditures show under certain restrictive assumptions positive income effects. If taxes are lowered when keeping expenditures for goods and services constant, then also a positive income effect can be expected. A surplus caused by expenditure reduction when keeping the other budget items constant or a surplus caused by increasing taxes and not changing the other items result in a negative income change. Other kinds of effects are expected if both budget sides are changed. Then a surplus with budget expansion should increase income but a surplus with budget contraction should lead to shrinking of income. A budget deficit with budget contraction should cause lower income and a budget deficit with expanding budget should increase income (Timm 1975). However, if there is a budget deficit there must be a financing of the deficit. Here debt financing is assumed. The impact of deficit is also influenced by the kind of debt finance (Timm 1975). Public debt financed by the central bank, which is not allowed in the Eurozone, increases the money volume and the credit potential of banks and lowers the interest

rate. The use of reserves with central bank also increases the money volume and the credit potential of banks and lowers the interest rate. The same effects can be expected if state securities are sold to banks and from there to the central bank. If bonds are issued with the public or non-banking institutions and the bonds are not sold to the central bank the money volume and the credit potential of banks does not change and the interest rate may increase. Selling the bonds abroad to a country with a different currency lets the money volume and the credit potential of banks to increase and interest rate to decrease. A decrease of interest rate may be hindered if the budget deficit stems from higher public investments. Also the financial transactions related to a budget surplus influence the money volume, the credit potential of banks and the interest rate.

The jurisdictions and their public offices can use their budgets for **stabilization policies** in different ways. They can adapt to economic developments or they can choose an anti-cyclical policy of stabilization. If tax revenues decrease as a consequence of recession, they may be increased by imposing higher tax rates. Alternatively the expenditures for goods and services may be reduced to avoid budget deficits. The first policy produces a negative multiplier on income. However, the second case produces even a more negative multiplier. With both parallel policies there might be additional effects on investments. The recession becomes even more severe.

Public management may fight actively against recession by using active fiscal policies, full automatic stabilization (built-in-flexibility), and semi-automatic stabilization (formula flexibility). In times of boom a Haavelmo policy might be chosen by reducing expenditures and tax burdens. The multiplier turns out to be negative but there might occur also a push to higher investment through interest variations. (Timm 1975) In boom periods a surplus policy may dampen the income increase more. The surplus can be achieved by lowering expenditures for goods and services, lowering transfers to households and by higher taxation. In the times of recessions the Haavelmo policy also turns out to be not very effective because of a small multiplier and investment reactions. The deficit policies show more stronger impacts. A deficit with spending (increasing expenditures for goods and services and holding the revenues constant) is more effective than a budget deficit without spending (keeping the expenditures constant and reducing revenues).

However, there are not only stabilization goals to be considered. If there is an optimal relation between government expenses and private expenses enabling full employment, anti-cyclical movements of expenditures disturb this relation and the **allocation** between public sector and private activities. If tax instruments are used the problem of **distributive neutrality** arises. Variation of depreciation mostly favours big enterprises. The reduction of profit taxes increases the income of rich persons. Therefore, linear reductions of rates of important taxes (income tax, VAT) are more adequate. Further **difficulties in implementing fiscal policies** get discussed (Hedkamp 1968; Andel 1998) such as the identification of the business cycle for public offices and politicians, the reaction time needed to formulate and program fiscal policy measures, the requirements of making laws, the signalling effects of law making which might be anticipated by economic units, inflexibilities of public offices which perform their plans. To react by using fiscal policy is easier in times of recession than in times of booms because in this case voters are the winners from the measures. In boom times voters and interest groups try to resist fiscal measures that lower the income increase. Federal co-operation among jurisdictions is necessary in federations and in the EU because of autonomy at the various jurisdiction levels. A system of grants considering stabilization normally does not exist. Such fiscal policies cause difficulties for public management as the planning public offices must develop projects to fight recession in advance and the coordination of public offices must change according to fiscal policy variations. In times of boom the implementation of plans (e.g. investment projects) must be stopped or prolonged causing many difficulties for public offices and their plan fulfilment.

Interesting for public management is the use of so-called **automatic stabilizers**, which automatically counteract some developments. This is demonstrated by Musgrave and Miller in the case of income

taxation (Musgrave, Miller 1955, Dolls, Fuest, Peichl 2012). An income tax reduces the consumption and therefore the increase in income. These effects and the built-in flexibility impact depend on the sensitivity of the tax base on income, the marginal tax rate, the size of the tax rate and of the size of the tax base. The concept gets also extended by incorporating expenditures for goods and services and transfers (Timm 1975). It can also be extended to different jurisdictions. The **built-in flexibility** does not avoid the fluctuation of income totally and its impact differs in different phases of the business cycle. However, it should be determined for what situations of public management the concept should be used to control public offices.

Another possibility to fight business cycles by budget policy is the so-called **formula-flexibility**. Formula flexibility refers to an arrangement whereby changes in tax rates and/or expenditures are legislated in advance, to go into effect if and when specified changes in income occur (Musgrave 1959). Public managers have to solve the problem of how to ascertain the right size of these parameters of automatic intervention.

Macroeconomic impacts of public sector management concern also the impacts on the **growth** of the economy. In public finance the contribution of public sector to growth of the private sector is discussed (Musgrave 1959; Timm 1963). Less tackled is the influence of the private sector on the public sector. Difficulties exist with respect to the **definition of growth**, the reasons for growth, the determinants of growth and determining what are the factors influencing growth that are foreseen to accomplish several goals of the economy and society (e.g. production, employment, price level, distribution of income and wealth). As there is no social welfare function available, growth is often expressed in terms of income or income per capita. Some reasons for growth are debated in literature about economic development (see below). As **determinants of growth** several supply factors (e.g. increase of population, capital formation, technical progress, etc.) and demand factors (e.g. consumption, investment) are mentioned in the public finance and economics literature. The main interest of growth theoreticians has been directed to growth features such as growth at constant prices.

There are also some theories to explain why the **public sector experiences growth**. Adolph Wagner, an economist at the University of Tartu (Dorpat) formulated the so-called law of increasing government spending (in absolute and relative terms). He argued that the main reasons why public sectors are growing are the development of states to a constitutional democracy, the higher needs for expenditure for education, and increasing cultural, and social activities (Wagner 1893). In the debate on this law (Borcherding, Ferris, Garzoni (2004)). Timm pointed out that this „law“ reflects some historical development lags prevailing in the 19th century (Timm 1961). Public sector growth can also be explained by the theories explaining change in administrative tasks. These tasks can change from guarding of law and order towards promoting economic units to develop in the future and also be changed by economic phenomena like higher production, technical progress, wars, social developments and weakening of family ties, migration and aging, etc. We can also point to microeconomic reasons related to the theory of an economic plan provided in the second chapter. Other reasons are related to public choice and political cycle theories as well as international economic integration and increasing regional competition.

Economic growth theory concentrates on economic conditions for **natural rate of growth**, which takes place when all production factors are fully employed, for **actual rate of growth** and for a **balanced rate of growth** at which the prices keep constant. Solow looks on the natural rate of growth and evolves that it is depending on the growth of labour and of technical progress (**Solow** 1970). He originally did not consider the public sector. The Solow model was used to detect the consumption maximal rate of investment, when public sector activities are treated as investments and public consumption is included. The consumption maximal quotes of investment equal the partial production elasticities of the private and public capital stocks. The growth rate of the private

capital stock and the growth rate of the public capital stock have to be equal and the marginal productivities of both capital stocks must be the same as well.

Another approach by **Harrod and Domar** concentrates on the balanced rate of growth, which results in an investment rate which equals the relation between propensity to save and capital coefficient when supply of output equals demand. The public sector gets introduced in the demand side leading to a multiplier that comprises also transfers, expenditures for goods and services and taxation. Public sector appears also on the supply side where the private marginal productivity gets corrected by contribution of that of the public sector (Timm 1963). In case of a balanced budget the propensity to save gets corrected by one minus tax rate plus the rate of transfer rate. The capital coefficient is multiplied by 1 minus the rate of expenditure multiplied by the marginal productivity of inputs received from the public sector. The interesting result is that if marginal productivities of public deliveries equal one, the Harrod Domar rate is achieved. If the marginal productivity of public services is higher than one, the rate of balanced growth goes up, and if the marginal productivity of public sector services is smaller than one, the balanced growth rate decreases. **High productivity of the public sector** allows for higher growth at stable prices.

Low productivity of public sector lowers the balanced growth rate and the possibilities to grow at constant prices. The result depends on the efficiency of state expenditures. The tax financed increase of transfers does not change the balanced growth, because taxation and transfers undergo the same changes when the public expenditure rate does not change. By multiplier models one can argue further, what happened to the **actual growth** and what changes in production functions have altered the **natural rate of growth**.

There are different **development theories** which point to different roles of the public sector and public sector management (the following literature is cited in Friedrich, Nam 2009). Apart from the just mentioned growth theories there are further **newer development theories** which also deal with growth (Kaldor, Lukas, Romer) but point to externalities, which prevent the marginal product of capital from falling and which are very much influenced by the public sector. In **classical theory of development** (Smith) the division of labour and the market economy, which has to be regulated by public management drives the development. Development theory formulated by **Ricardo and von Thünen** points to the importance of an agricultural subsistence fund and population increase as factors of development. They can be influenced by public management. **Keynes** (2012) has directed attention to difficulties of lagging demand and disturbances on money markets that give rise to public interventions and additional demand of public sector. **Decline theories** (e.g. by Malthus) of overpopulation point to the need of public management intervention. Nowadays more attention is paid to theories of **economic decline and stagnation** (Hansen), which deal with the consequences of aging and the role of the public sector to control the processes. Also newer theories tackle the **effects of overpopulation** on consumption, infrastructure, capital provision (Enke, Simon, Thirwall, Szirmai, and Böhm-Bawerk) and public measures to steer development. Other **partial theories of economic decline** (Boulding, Lele, Meadows, World Bank) deal with environmental limits of development and with possibilities of public management to fight degradation, emissions, etc. **Theories of structural change** (Boeke, Forastier, Hoffmann, Ranis, Prebis, Myrdal) explain the changes in sector composition and their effects on development and they give hints to public management to control economic development. Nurske and Hirschman recommend **development pushes** initiated by public sector that spread over the whole economy, whereas Rosenstein-Rodan and Leibenstein prefer a **total industrialization plan**, in particular if an entrepreneurial class does nearly not exist in a country. Other theories of structural change point to **evolution and product cycles** as well as overspecialisation as reasons for growth and decline (Gerschenkron, Gould, Kaniss, Abramovitz, Verspagen). Some theories focus on **spatial changes** occurring in central place systems (Christaller, Lösch, Beckmann, Parr) and the possibilities of public management to influence regional development. Other theories of spatial change turn to **agglomerations** as driving forces of

development (Weber, Palander, Beckmann) and public management tasks to promote agglomerations. **Growth pole theories** (Predöhl, Perrroux) recommend creating synergy effects by special combinations of sectors developing the economy. Net-working between private firms, public firms and public offices should lead to **industrial complexes** (Isard, Steiner) that foster growth. Importance of foreign trade, foreign investments and regional competition for development and adequate public sector management for development are debated by List, Prebisch, Thirwall, and the World Bank. But also theories of **social and economic order development** (Weber, North, Putman, World Bank) are stressing ethic and cultural factors hindering or fostering economic development. They point to measures of public management to change the economic and social order in favour of a growing economy. The theories of Marx and his followers see as driving forces the material development of production conditions and related revolutions in society as a way to higher development, where the public sector is an instrument of leading classes to govern society. Also **Schumpeter** points to disharmonies of development where the entrepreneur plays the role of an innovator by introducing new goods, production methods, etc. All these theories connect the public sector to macroeconomic analysis. There are **old stage theories** (Roscher, Schäffle) and **new stage theories** of development of economy and civilization (Akamatsu, Kojima, Nam) directed to innovation and international trade. They highlight public management actions and policies to achieve a higher stage of development.

Macroeconomic analysis has to take place when public sector's and public offices' measures are going to influence attainment of **goals expressed in macroeconomic terms**, e.g. income distribution, property distribution, price level, external balance, etc. Shifting theory mentioned as an important microeconomic issue of public management shows also macroeconomic features.

Total Shifting

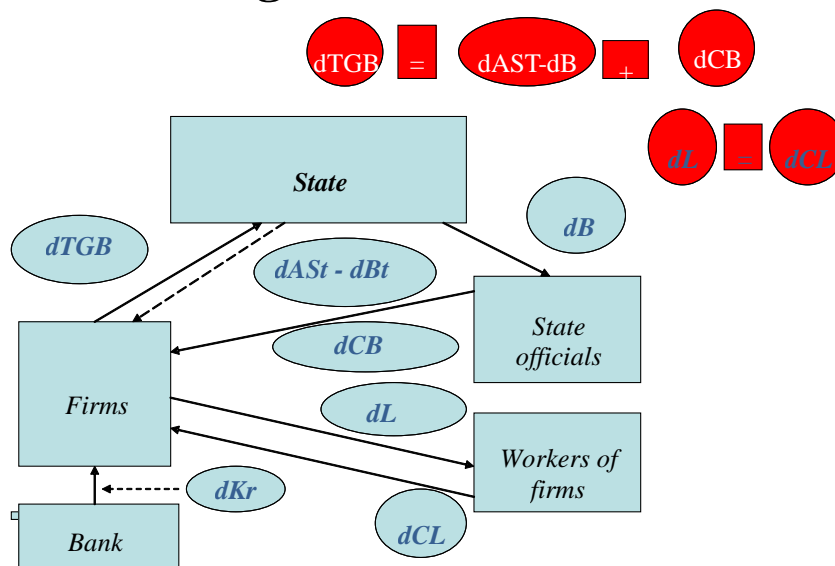


Figure 27. Scheme of macroeconomic tax shifting

Source: Authors

Figure 27 demonstrates a macroeconomic **total tax shifting of a profit tax**. The public sector (state) levies a profit tax ($dTGB$) on the firms' sector. The financial flow to the state is $dTGB$. The state might spend the sum received totally on purchases from the firms ($dAST-dB$) and on officials (dB). If the officials have a propensity to consume equal to 1, then the officials use the higher income for buying consumption goods (dCB) from the firms. The amount the firms lost comes back and their profit

position does not change. The tax burden is shifted totally and avoided by the firms. However, such shifting is only possible under such restrictive conditions. Normally these flows back do not happen within one period. Then the firms have to be credited and the firms loose profit. The total shifting does not take place. Such macroeconomic shifting analysis can be done also for other measures of public management.

3.3. Methods to Identify Macroeconomic Effects of Public Management

The problem is also to develop the macroeconomic impacts and effects of public management. For that purpose multiplier models, input-output models, econometric procedures, calibration techniques, methods of project planning and layout procedures and recommendations of experts get used. To detect welfare impacts of public expenditures and measures, economists can apply so-called **CGE-models** (Computable General Equilibrium Models) (see Bröcker 1998; 2001; Haddad, Hewings 2001, Donaghy 2009). The Keynesian markets get modelled and equilibrium solutions determined mostly under restrictive assumptions just as nearly perfect competition in the markets. However, the CGE-models do not describe and model the public sector intensively enough (see Dixon et al. 1992; Shoven und Whalley 1992) to determine the impacts and the consequences for the public sector itself. Sometimes the public sector is just included through a balanced budget. More characteristics of public management have to be considered in CGE-models. The analysts should focus apart from equilibriums in privately dominated markets to look for equilibriums under inclusion of public markets and political equilibriums. For Estonia there is only a rudimentary CGE-model of the Estonian Central Bank available.

Not so well known is another approach for determining macroeconomic effects, which concentrates on public investments and impact identification of public management. The so-called taxonomic location approach is to identify the economic and fiscal effects of **localization** and actions of public or private economic units (Friedrich, Wonnemann 1980; Friedrich, Wonnemann, 1981; Friedrich 1985, Friedrich, Wonnemann 1985; Wonnemann 1989) using the examples of Germany and China (Feng, Friedrich, 2001). In contrast to CGE-models, crowding out effects capture changes in **behaviour** and market reactions. The approach provides possibilities to adapt parameter values without referring to economic or political equilibrium theories. Therefore, parameter values can be treated and specified oriented to the specifications of an individual infrastructure project located in a specific region.

The instruments (see [Figure 28](#)) offered by the taxonomic location approach serve three main aims:

- (1) To check whether choosing a location for a public facility is feasible at all,
- (2) To identify development measures, direct financial and direct non-financial effects,
- (3) To quantify these effects.

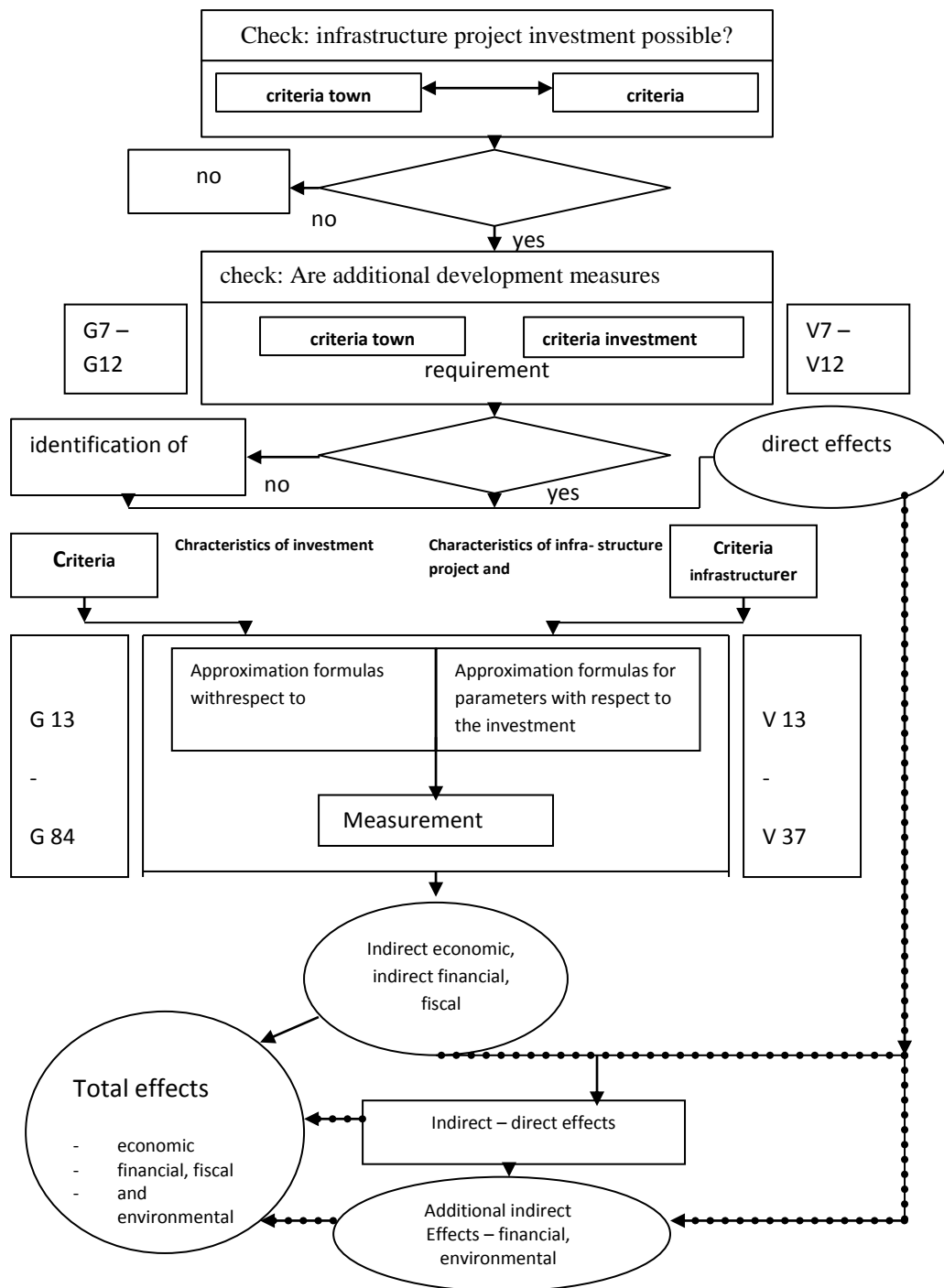


Figure 28. Procedure of the taxonomic location choice approach to identify effects

Source: Friedrich 1985

With regard to effect measurement, we have two kinds of instruments. A macroeconomic model quantifies most of the effects, especially economic ones, whereas others are measured by a variety of methods depending on the kind of effect.

Formulae for the measurement of indirect financial and fiscal effects of location settlement have been evolved, based on a macroeconomic multi-region multi-sector model (See [Figure 29](#)). Within these formulae specific conditions for location choice are represented by parameters. These parameters are linked with criteria, which describe investment (e.g. stadium) characteristics and that of the town selected for investment, e.g. Munich. To calculate the parameter value, we insert the criteria values into approximation formulae.

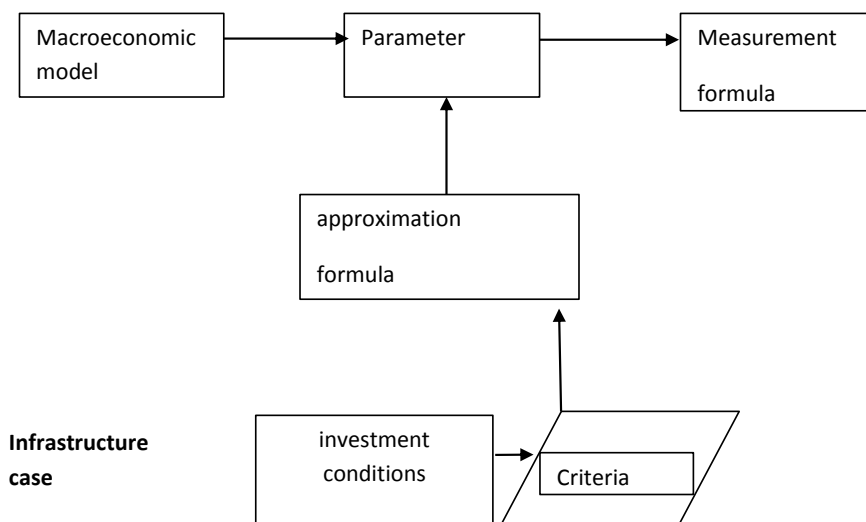


Figure 29. Basic characteristics of the model to measure economic, financial and fiscal effects

Source: Friedrich 1985

The knowledge on macroeconomic issues the students should obtain through the already mentioned lectures in public finance where apart from microeconomic impacts also the macroeconomic ones are taught.

3.4. Readings for Students

- Chapter 3, this instructional material
- Cottarelli, C., Jaramillo, L. Walking Hand in Hand: Fiscal Policy and Growth in Advanced Economies. IMF Working Paper, May 2012, WP/12/137.
- Haavelmo, T. (1955) Multiplier Effects of a Balanced Budget, in: A. Smithies and J. K. Butters, Eds., Readings in Fiscal Policy, London, pp. 335-345, Allwin and Unwin
- Musgrave, R.A., Miller, M.H. (1948) Built-in flexibility, American Economic Review 38, 122-28
- Friedrich, P.J.; Ülper, A.; Ukrainski, K. (2014) Shrinking Cities and Processes in Estonia. Richardson, H.W.; Nam, C.W. (eds.). Shrinking Cities: A Global Perspective. Taylor & Francis

3.5. Teaching Activities

I *Interactive lecture* on the size and delineation of the public sector. Additionally the theories of public sector growth and economic development are reviewed and discussed in the classroom. (based on sub-chapter 2.13.1). The students are encouraged to discuss, which theory is most plausible one in their opinion. The lecture prepares the theoretical knowledge base for solving analytic exercises in Seminar II. The homework is given for writing a report, which is discussed in the seminar (exercise no 13).

II Seminar is devoted on exercises 8-14 on the exercise list. The exercises are related to the empirical evaluation of the theories of public sector growth, but also more general topics in macroeconomics that concern the public sector. The exercises also require discussion after analytical solution is found. This seminar is aiming at developing the skills for analysing, synthesizing, critical thinking and problem-solving (general learning outcomes no 2 & 3).

III Interactive lecture concerns the macroeconomic effects of the management of public sector (based on sub-chapter 3.2.). The students are encouraged to recall the principles of the macroeconomics. The lecture prepares the theoretical knowledge for solving analytic exercises in Seminar IV.

IV Seminar is devoted on exercises 1, 2 and 5-8 on the exercise list. The exercises also require discussion after analytical solution is found. This seminar is aiming at developing the skills for analysing, synthesizing, critical thinking and problem-solving (general learning outcomes no 2 & 3).

V Interactive lecture concerning the methods for evaluating the effects (based on sub-chapter 3.3.). The lecture prepares the theoretical knowledge for solving analytic exercises in Seminar VI.

VI Seminar. The exercises solved in Seminars I and III are reviewed based on the methods used. Additionally exercise 3 is solved. This seminar is aiming at developing the skills for analysing, synthesizing, critical thinking and problem-solving (general learning outcome no 3).

VII Seminar. The discussion of this seminar is based on exercise 4. The seminar is conducted based on the jigsaw method. After reading the mini-articles and answering the questions the students form temporary “expert groups” each consisting of all the students who have read the same article. In these groups students can discuss their findings to prepare themselves better for the presentation in their jigsaw groups. After that students are regrouped to the jigsaw groups consisting of eight members (one for each mini-article). In these groups each student has to present his or her findings. Using the knowledge obtained from the mini-articles about the government expenditure multipliers and the knowledge gained during the lectures the jigsaw groups have to compile a mind-map on the effect of fiscal policy on economic activity as a team-work. After the teams have prepared their mind-maps, each team has to present its work and then general discussion follows.

VIII Seminar foreseen to reflect upon the developments in Estonia based on the exercise 15. The students have to prepare by reading at home Friedrich et al. (2014) containing a description of the development of Estonia in past 30 years. The students are asked to write 1 page-answer to the following questions:

- What are the main characteristics of the development in Estonia?
- What growth theories can be used to explain these processes?

The seminar begins with the general discussion based on the homework to reach to the common understanding; the students have to write a 1 page report on the questions after the seminar. Report is evaluated.

Together this chapter would require teaching activities in 6 lectures, 10 seminars and 26 hours individual work.

Assessment criteria for assessing the achievement of specific learning outcomes are the following (based on Hansen 2012 with authors’ additions):

1. Assessing, collecting and organising existing knowledge (teaching activities I, III, V)
2. Displaying the command of existing knowledge (teaching activities I-VIII),

3. Interpreting existing knowledge (teaching activities I-VIII),
4. Applying existing knowledge (teaching activities I-VIII),
5. Interpreting and manipulating quantitative data (II, IV, VI, VII, VIII),
6. Communication skills (teaching activities II, IV, VI, VII, VIII).

The methods of assessment of the knowledge are based on assessing the problem solutions for activities II, IV, VI (for assessing the criteria 1, 2, 3, 4 and 5). The reports of the activities II and VIII are assessed for content adequacy with respect of the specific learning outcomes as well as style and literacy. The communication and participation in discussions (activities II, IV, VI, VII, VIII) is evaluated by the instruction of Carlson and Velenchik (2006:73-74).

3.6. Questions for Repetition

Sub-Chapter 3.1

1. Which public offices of the EU deal with macroeconomic effects and impacts?
2. Which EU regulations require evolving the impacts of public management programs and projects?
3. Which amendments in Estonian law require identifying macroeconomic effects of programs and projects?
4. Which public offices of the central state have to deal with macroeconomic effects?
5. Which kinds of macroeconomic effects are relevant? State examples!
6. Which difficulties arise when defining the public sector?
7. How many sectors exist in Estonian national accounting? Does the sector „government“ comprise the whole public sector? Does it comprise all gross and net public offices?
8. How does one express aggregated demand in a closed economy, when we consider three sectors: firms, households and government (state, public sector)?
9. Show the bookkeeping and accounts chart for the three sectors! What functions with respect to income express the accounts: production, assessment of national income, distribution, redistribution, assignment of income and savings, assets and claims and liabilities?
10. How is the state consumption evaluated by factor costs?
11. How is the GDP evaluated at factor costs?
12. How is the national income at factor costs?
13. How are the personal income and the disposable income of households?
14. How high is the state quota in Estonia?
15. How high is the state quota of taxation in Estonia?
16. How high is the quota of transfers in Estonia?
17. Is the state quota a real quota?
18. How high is the state quota if only a state and a private sector are defined and all flows between the sectors get included?
19. Develop a suggestion for a quota expressing the influence of public sector on the economy!

Sub-chapter 3.2

20. Which macroeconomic relations comprise the Keynesian system?
21. How are the so-called goods, money, and labour market (real market) considered?
3) Show them in algebraic and graphical form!
22. Which macroeconomic relations comprise the classical system? How are the so-called goods, money and labour market considered?
23. Show them in algebraic and graphical form!
24. What effects do you expect in both systems if savings become taxed?
25. What are the weaknesses of these general formulations?

26. What is their use for detecting public management impacts?
 27. Which difficulties arise when defining the public sector?
 28. How many sectors exist in Estonian national accounting? Does the sector government comprise the whole public sector? Does it comprise all gross and net public offices?
 29. Develop analytically the government expenditure multiplier!
 30. Develop analytically the transfer multiplier!
 31. Show the effects of other types of expenditures such as interests, subsidies, and transfers, crediting to private sectors, purchasing real estates and assets, repayment of public debt?
 32. Do all expenditures extend the crediting potential of the banking system?
 33. Identify the effects of tax revenues!
 34. Which effects are considered regarding private enterprises?
 35. Which are the income effects of other public revenues such as fees, social levies, sale of real estate, property, receipts from back payments of credits, public debt?
 36. How do receipts from private sector influence credit potential of banks?
 37. What is a balanced budget?
 38. Explain the Haavelmo-Theorem according to Haavelmo, Schneider and Timm!
 39. Show the effects of structural changes of a balanced budget!
 40. Which budget policies are distinguished?
 41. How affects a budget deficit or budget surplus the income?
 42. Show the effects of financing budget deficits!
 43. What kind of adaptive policies exist in case of business cycles? Which are their effects?
 44. Which anti-cyclical policies exist?
 45. Which effects imply ad-hoc stabilization policy?
 46. Which allocative and distributive implications should be considered?
 47. What are the challenges to ad-hoc stabilization policy! Makes a stabilization law for Estonia sense?
 48. Show the formula of Musgrave-Miller for automatic stabilization!
 49. How can expenditures be included in the formula of Musgrave Miller?
 50. What means the formula flexibility?
 51. How to consider state activities in the neo-classical growth theory? Which are the main findings?
 52. What is the natural rate of growth, what means the actual rate of growth, what is the balanced (warranted) rate of growth?
 53. How to consider the state within a Harrod–Domar Growth theory? Which are the main findings?
 54. How does the marginal productivity of public services influence the balanced rate of growth if the public sector budget is balanced?
 55. What follows for a public policy of growth?
 56. Which development theories point to which public development measures?
 57. Under which conditions is a macroeconomic total tax shifting possible?
- Sub-chapter 3.3**
58. Define a CGE model! What are the chances and limits of CGE models to detect macroeconomic effects?
 59. What other methods are available to identify macroeconomic effects of public management?
 60. What is the taxonomic approach to detect macroeconomic effects? Which are its advantages and limits?

3.7. Exercises

1. Answer the following questions!

- a. Consider the Keynesian economic system. Suppose government expenditures are increased. How does the system respond to this change? Show it in algebraic and graphical form!
 - b. Consider the Classical economic system. Suppose government expenditures are increased. How does the system respond to this change? Show it in algebraic and graphical form!
 - c. Explain why the results are different in these two models!
2. Consider a closed economy and derive traditional Keynesian investment multiplier, government expenditure multiplier, transfer multiplier and tax multiplier.
 - a) Explain on what indicator(s) do these multipliers depend on and how!
 - b) Compare these four multipliers (similarities, differences)!
 - c) What are the simplifying assumptions behind these multipliers (which changes are assumed to be equal to zero)? How realistic are these assumptions?
 - d) Give some examples of the effects of other types of government expenditures and revenues on GDP.
 - e) What does the size of the marginal propensity to consume depend on?
 - f) What conclusions should follow from this, i.e. how does this influence the policy suggestions?
 - g) To answer points (e) and (f) you may consult the following source: Tullio Jappelli, Luigi Pistaferri. Fiscal policy and consumption. 23 March 2013.
<http://www.voxeu.org/article/fiscal-policy-and-consumption>
 3. Book the following transactions:
 - a) CuH (consumption of households), IbrU (gross investment of firms), IbrSt (gross investment of state), VLuSt (sold firm services to state);
 - b) VIGstU (sold state services to firms), CGStH (sold state services to household), CSt (delivered state services free of charge), SA state self produced equipment, VLHSt (non- labor sold household services to state);
 - c) CHH (paid deliveries of households to households)
 - d) DU (depreciation of firms), Tind (indirect taxes of firms), Z (subsidies), DSt (depreciation of state), TindSt (indirect taxes of state);
 - e) Ga (profits distributed to households), L (wages paid by firms), Gö (profits of public enterprises), Ge (retained profits), B (income of public officials), ZSt (interest payment of state), LHH (wages paid from households to households);
 - f) TdirU (direct taxes from firms), TdirH (direct taxes from households), Tr (Transfers)
 - g) SU (savings of firms), CSt (savings of state), SH (savings of households);
 - h) VüStU (property transfer from state to firms), VüStH (property transfer from state to households), FU (claims of firms), VU (liabilities of firms), FSt (claims of state), VSt (liabilities of state), FH (claims of households), VH (liabilities of households)
 4. The question of the efficacy of the fiscal stimulus packages has caused different opinions among economists already for a very long time. The recent recession and the reactions of governments to it have revived the discussion over government expenditure multipliers. The following exercise should help to get an idea about these issues. Each student has to read one of the mini-articles named below and answer the following questions:
 - a) What do the authors claim about the size of the expenditure multiplier?
 - b) Which data do they use or refer to (country, time period, indicators, etc.)?
 - c) Which assumptions do they make or which economic model do they use?
 - d) Any other important aspects in this mini-article.

The list of the mini-articles is as follows:

- Design and effectiveness of fiscal-stimulus programmes. Robert Barro, Charles Redlick, 30 October 2009. <http://www.voxeu.org/article/design-and-effectiveness-fiscal-stimulus-programmes>
- What is the size of the multiplier? An estimate one can't refuse. Giancarlo Corsetti, Saverio Simonelli, Antonio Acconcia, 4 April 2011. <http://www.voxeu.org/article/what-size-fiscal-multiplier-estimate-you-can-t-refuse>
- How big are fiscal multipliers? New evidence from new data. Enrique G. Mendoza, Carlos A. Vegh, Ethan Ilzetki, 1 October 2009. <http://www.voxeu.org/article/determining-size-fiscal-multiplier>
- Gauging the multiplier: Lessons from history. Barry Eichengreen, Kevin Hjortshøj O'Rourke, 23 October 2012. <http://www.voxeu.org/article/gauging-multiplier-lessons-history>
- The fiscal stimulus debate: "Bone-headed" and "Neanderthal"? Volker Wieland, 31 March 2009. <http://www.voxeu.org/article/will-stimulus-work-reasons-doubt-romer-bernstein-spending-multiplier-estimates>
- Does fiscal stimulus work in a monetary union? Evidence from US regions. Emi Nakamura, Jón Steinsson, 2 October 2011. <http://www.voxeu.org/article/does-fiscal-stimulus-work-monetary-union-evidence-us-regions>
- Measuring the output responses to fiscal policy. Alan J Auerbach, Yuriy Gorodnichenko, 3 September 2010. <http://www.voxeu.org/article/measuring-output-responses-fiscal-policy>
- When is the time for austerity? Alan Taylor, 20 July 2013. <http://www.voxeu.org/article/when-time-austerity>

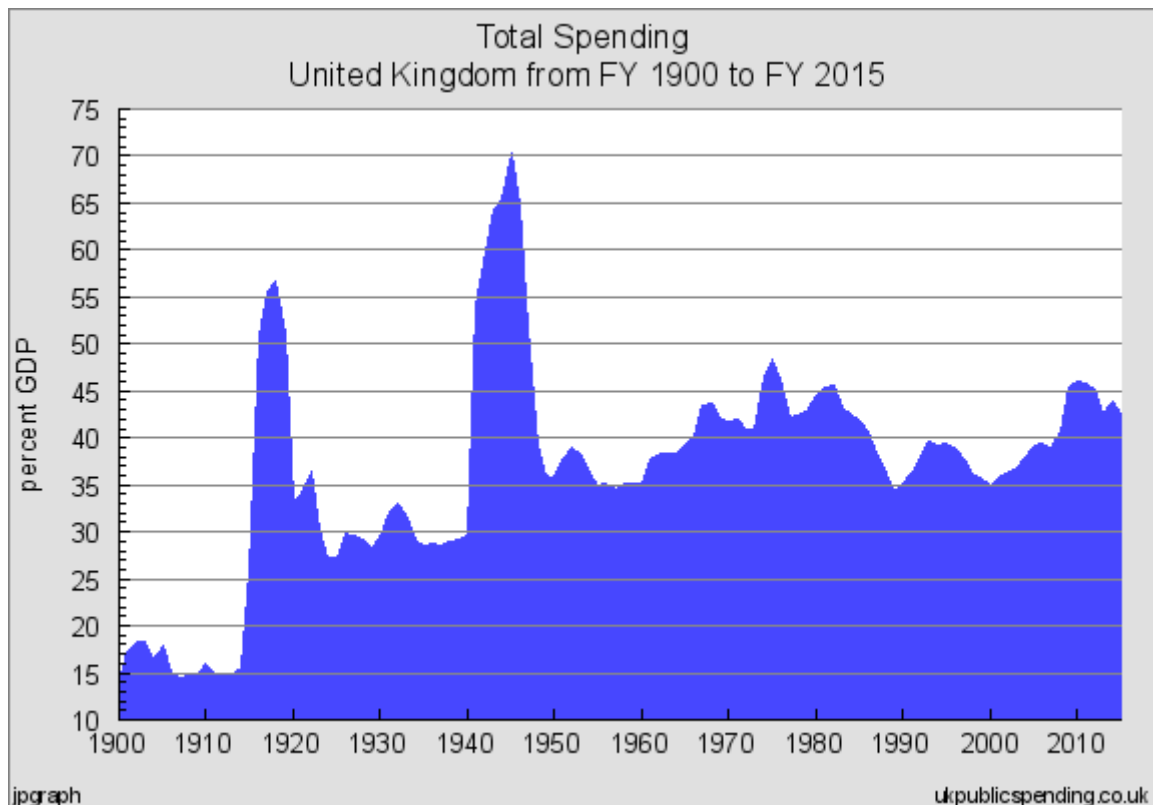
5. Answer the following questions.

- a) Compare the balanced-budget multiplier models of Haavelmo, Schneider and Timm: discuss the similarities and differences of these models!
- b) Show that theoretically increasing tax receipts should be preferred to lowering public expenditures in times of recession!
- c) Based on these kinds of models, Pontus Rendahl (A case for balanced-budget stimulus. 26 April 2012. <http://www.voxeu.org/article/time-spend-new-insights-multiplier-effect>) argues that in the current economic situation a tax-financed expansion in government spending should be preferred to austerity programs as the balanced-budget multiplier may be even more than 1. In which European Union countries the conditions pointed out by Rendahl are satisfied, i.e. which EU countries should benefit from tax-financed expansion of government spending? (To answer this question, you should search for additional information.)
- d) What may be the counterarguments or possible obstacles accompanying tax-financed expansion of government spending in these countries?
- e) If deficit financing is used instead of financing the expansion of government expenditures by current tax increases, which are the theoretical possibilities for that? Describe the effects of different deficit financing opportunities anticipated by the theory!
- f) Which of these possibilities are available in practice in the countries identified in part (b)? Explain your opinion!

6. One possibility for smoothing economic cycles is to use discretionary fiscal policy.

- a) How should discretionary fiscal policy be used to mitigate business cycles?
- b) What difficulties are associated with the implementation of this policy?
- c) Analyse the fiscal policy of Estonia in the period 2005-2013. Was the discretionary anti-cyclical fiscal policy used in Estonia? Describe the steps taken by the government in fiscal policy in that period and analyse the accordance of these to the theory. (To answer this question, you should search for additional information.)

7. Business cycles are to some extent smoothed by automatic stabilisation built into the fiscal systems.
 - a. Explain the nature of the built-in flexibility of fiscal systems!
 - b. What problems are associated with automatic stabilisation?
 - c. Analyse the extent of built-in flexibility of Estonian fiscal system! (To answer this question, you should search for additional information.)
 - d. How could the built-in flexibility of Estonian fiscal system be increased? Discuss the possibilities for that!
 - e. Should the extent of built-in flexibility be increased in Estonia? Explain your opinion!
 - f. Explain the nature of the formula flexibility of fiscal systems!
 - g. What problems are associated with formula flexibility?
 - h. How could the formula flexibility be integrated into Estonian fiscal system? Discuss the possibilities for that!
 - i. Should the formula flexibility be integrated into Estonian fiscal system? Explain your opinion!
8. (Exercise 4.16 in Hindriks, Myles (2006)) Assume that the demand for public output at time t , G_t , is given by the demand function $G_t = [Y_t]^\alpha$, where Y_t is national income at time t .
 - a. What is the income elasticity of demand?
 - b. For what values of α does Wagner's law hold? Show that expenditure on public output rises as a fraction of income for these values.
 - c. Assume that national income growth is determined by $Y_{t+1} = \beta Y_t + [\bar{G} - G_t]$. Will an increase in G_t raise Y_{t+1} in the cases where Wagner's law applies? Explain the answer.
9. (Exercises 4.22 and 4.23 in Hindriks, Myles (2006)) Answer the following questions!
 - a. Describe the benefits a bureaucrat can obtain from an increase in bureau size!
 - b. Are there any private costs?
 - c. Do regular changes in government assist or hinder bureaucrats in expanding their bureaus?
10. The figure below graphs the data on UK government spending as a proportion of GDP for the years 1900-2015. To answer the questions you should search for additional information if needed.
 - a. Does the data support Wagner's law?
 - b. Which factors may explain the quite extensive growth of government spending between 1915-1940?
 - c. Has there been any structural change in the growth of spending as a proportion of GDP (a point where the growth trend changes)?
 - d. Which factors may explain the decrease in government spending as a proportion of GDP in the 1980s and the increase since 2000?
 - e. Obtain data on public spending as a proportion of GDP for another country (for as long period as possible). Analyse the development of government spending as a proportion of GDP through years. Does the data support Wagner's law?



Source: www.ukpublicspending.co.uk

11. (Based on exercise 21.9 in Hindriks, Myles (2006)) Consider the Solow growth model with Cobb-Douglas production function $Y = z[K^\alpha L^{1-\alpha}]$, where Y is total output, z is total productivity, K is the total capital input, and L is the total labour input.
 - a. Show that in the competitive equilibrium, α is the fraction of national income that goes to the remuneration of capital and $1 - \alpha$ is the fraction that goes to the remuneration of labour.
 - b. Use the (average) labour share in national income from Estonia for the period 1995 to 2013 to find the value of α .
12. Answer the following questions!
 - a. What are the determinants of growth in the exogenous growth models in the short run?
 - b. What are the determinants of growth in the exogenous growth models in the long run?
 - c. Discuss the possibilities government has in influencing growth according to the exogenous growth models!
 - d. What are the determinants of growth in the endogenous growth models?
 - e. Discuss the possibilities government has in influencing growth according to the endogenous growth models!
13. Read the following study: Cottarelli, C., Jaramillo, L. Walking Hand in Hand: Fiscal Policy and Growth in Advanced Economies. IMF Working Paper, May 2012, WP/12/137. Reading the appendix (starts on page 17) is voluntary.
 - a. Prepare a short summary of this working paper (about a page).
 - b. Are there any suggestions in this working paper that Estonia should use in implementing its fiscal policy? Explain your opinion!
 - c. Are there any suggestions useful for other EU countries? Explain your opinion!

14. Using data from the previous year find the average income tax rate in Estonia:
 - a. for a person with monthly salary equal to the minimum wage,
 - b. for a person with monthly salary equal to the average wage,
 - c. for a person with monthly salary equal to the threefold average wage.
15. Using data and discussion from Friedrich et al. 2014 about Estonian development, discuss how different growth theories can be used to explain decline in Estonia.

4. Teaching Management Concepts for the Public Sector

The specific learning outcomes of this chapter:

- The student can lead and manage public organizations in practice (general learning outcome No1)
- The student can participate in and contribute to the public policy process concerning organizational reforms (general learning outcome 2)
- The student can analyse, synthesize, think critically, and solve problems of managing public organizations (general learning outcome 3)
- The student can articulate a public service perspective (general learning outcome 4)

4.1. Components of Public Management

By looking at public management in terms of the economy, approaches to decision-making, the definition of a public economic unit and public management, goals are an important component of a public management concept. Goals can vary in importance across different public management concepts, and can generally be understood as the desired situations to be achieved. They differ from the tasks of public administrations. A task is a field of activity, which is mostly goal oriented. Programmes can then be looked at as goal-oriented activity packages. The goals are of eminent importance, as a public economic unit can only become active if it possesses the legal basis to do so. The legal bodies supervising jurisdictions articulate public interests that lead subsequently to the goals and tasks of the jurisdictions. The goals can be divided into a) goals which serve decision-making in public management – they are public management goals, and b) other goals, which only relate to carrying out tasks and are therefore executive goals. In a public management concept, the goals of public management are of primary relevance.

According to the main jurisdictions and the citizens who are members of them, we can distinguish between EU interests, federal or state public interests and sub-state or provincial interests – not relevant in Estonia – and municipal public interests. Public corporations with private individuals as members (such as members of social insurance funds), but also a church if it has the necessary authority can also develop public interests. Public interests refer to public goals that are determined by the competent authority, jurisdiction, public office, public enterprise or decision-making body (court, government, coordination body, etc.).

Public interests refer to different jurisdictions such as the EU, a member state, a sub-state or municipalities; therefore, it can refer to different aims or differently identified aims of the same kind.

These aims concern:

- society (freedom, justice, security, welfare),
- the state (democracy, federalism, rule of law, social responsibility),
- state tasks, territorial reforms, EU integration, religious freedom, protection of minorities, improvement of the environment,
- the economic affairs of the nation (employment, growth, price level stability, external trade, distribution).

But there are also aims that concern the goals of a public economic unit. They concern for example:

- the operational aims of a public office (growth of the public office, winning in competition, achieving a high budget, increasing capacities, survival),
- political aims (winning votes, offering positions for party members, gaining in public official participation, providing politically important services),

- other aims (sector aims for the military, security aims for the police, health services, education, research, transportation, insurance, banking, environmental, social and regional policies),
- managerial aims (increasing income, increasing staff, advancing the hierarchy, higher reputation, coordinating public offices).

Moreover, these aims are influenced (along with the coordinating goals stated by other public economic units) by the coordinating bodies. Sometimes they are fixed through administrative contracts between public offices.

A public economic unit has to transfer the broader goals into operational goals for the service sphere concerning procurement, production and delivery, but also into goals for the finance sphere. **Figure 30** shows these relationships graphically.

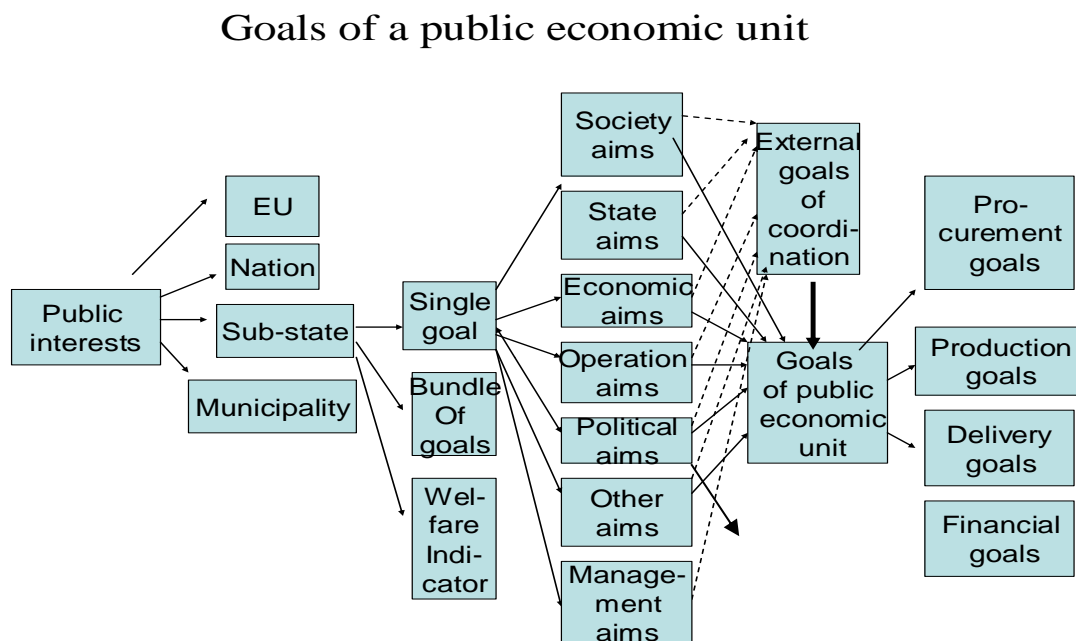


Figure 30. Goals of a public economic unit

Source: Eichhorn, Friedrich 1976

The goals can be formulated and measurable as single goals or as a bundle of goals. Sometimes, as already mentioned above, the goals may not be formulated explicitly. In such cases, an analyst will elaborate a welfare measure, which is used as a substitute for the goals of the public economic unit. This is also indicated in **Figure 30**.

The activities of a public economic unit might also benefit two groups of individuals – U_1 and U_2 . Such activities lead to utility results for both groups as demonstrated in **Figure 31** by the curve of possible welfare situations. As mentioned above, one could imagine a welfare function where the society's welfare depends on the welfare of U_1 and U_2 . The welfare of U_1 and U_2 depends on the activities (A) of the public economic unit (in the models of Public Finance, one also finds the quantity of public service).

This welfare function $W = f(U_1(A), U_2(A))$ is called the Samuelson-Bergson welfare function. Different levels of welfare can be mapped using a set of indifference curves, which show all combinations of U_1 and U_2 that lead to the same level of satisfaction or welfare for the society. Moving in a north-easterly direction, the levels of welfare increase (higher indifference curves are achieved). Welfare according to the Samuelson-Bergson welfare function is maximised when dW/dA equals zero. That

means the highest attainable indifference curve is reached through activities A by the public economic unit. As already mentioned such welfare functions are difficult to obtain. Therefore, alternative welfare functions are also suggested. One such, by Rawls, postulates that the group of citizens that is in a weaker position – group 2 in [Figure 31](#) (U_2) – should be preferred and their welfare should be maximised. However, this is also difficult because the possible welfare situation curve must be known and society must be convinced that the indifference curves in [Figure 31](#) are vertical, which might not be easily achieved on a democratic basis. The solution is shown in [Figure 31](#). The socialist idea that the relationship between U_1 and U_2 should equal 1 would be even more paternalistic. All possible distributions of U_1 and U_2 are situated on the 45 degree line.

However, not only does the welfare function often cause difficulties but so also does the shape of the possibility line, as one must know about all activities A and how they are related to U_1 and U_2 .

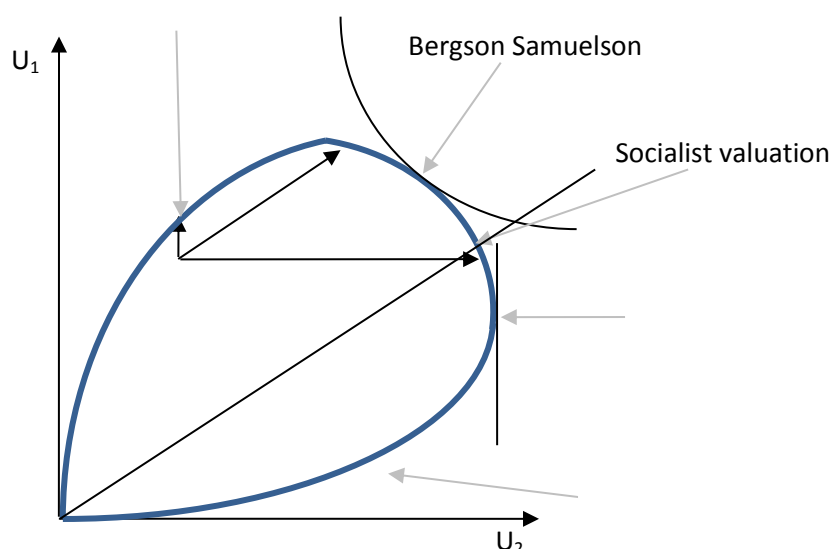


Figure 31. Solutions with welfare functions

Source: Authors

Actually, a distribution of U_1 and U_2 might be reached, which is inside the welfare possibility curve or space. Then the question arises of how the public economic unit should change its activities A to achieve greater welfare on the margin of the welfare possibility curve. This can be shown as follows. Activity A must be changed in the way that a solution is gained north-east of the inner point because both groups are gaining in utility. The Pareto criteria is met when a society – made up of group 1 and group 2 – is better off due to one group being better off and the other group not losing any utility. However, such solutions are only found in rare cases. There are mostly winners and losers. Therefore, the Kaldor-Hicks compensation test was developed. It says that the society made up of group 1 and group 2 is better off when the winner from a change in activity A is able to compensate the losers in such a way that they are not worse off and there is still a gain for the winners. This is shown in [Figure 32](#).

The solution space on the welfare possibility curve becomes wider up to the point where a loss for U_1 equals the gain for U_2 and the gain for U_1 equals the loss for U_2 . In this way, the space to find solutions has become much larger: $du_1 - du_2 \geq 0$, $du_2 - du_1 \geq 0$, $du_1 + du_2 \geq 0$.

This is the basis of the Cost-Benefit Analysis, where the benefit is shown in terms of the willingness to pay for gains by the winners of a change in A and the willingness to pay by the losers to avoid this change. In the Anglo-Saxon tradition this is often chosen as a substitute for a single goal or bunches of public goals. In some continental EU member states, public economic units are also legally obliged to detect whether there is a positive difference between social benefits and social costs, especially for larger projects in public economic units (in Germany it is required by the budget legislation)⁶.

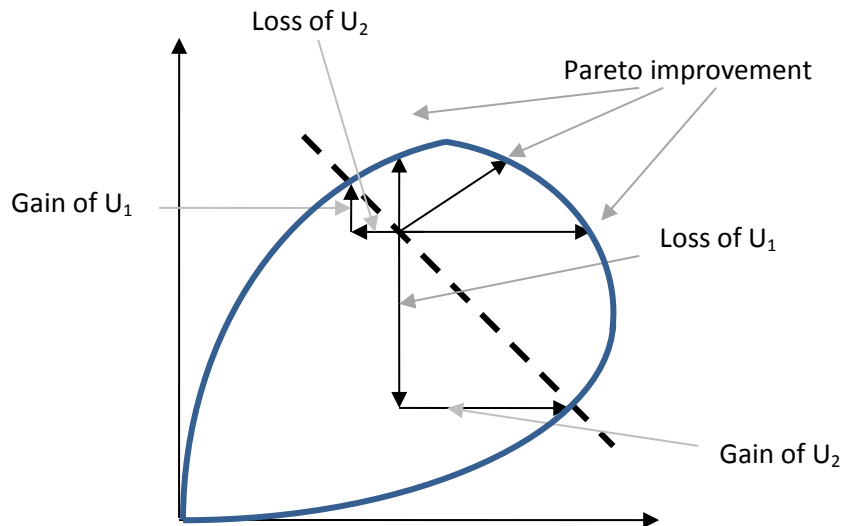


Figure 32 Kaldor Hicks compensation test

Source: Authors

Figure 32 and Figure 33 also tell us that there are evaluative relations between goals; for example, in order to improve U_1 and U_2 . There can be substituting relations (e.g. a Samuelson-Bergson welfare function) and limiting relations (e.g. a socialist welfare function). But there are also empirical relations between goals and they can be compatible if through a change both goals (utility increases for both groups) can turn out higher, (e.g. with a Pareto improvement), but they can also be incompatible if an increase for U_2 is only possible at the expense of a decrease for U_1 (see Figure 32). Moreover, hierarchical empirical goal relations can also be identified when the fulfilment of a lower goal contributes to the fulfilment of a higher goal.

Because the goals in some laws, but also in strategic documents, are not formulated clearly, completely or sufficiently or to give the public economic unit leeway of interpretation, many goals need a better specification first. These specifications take place in laws, decrees by courts or identification by public bodies such as parliaments, governments or public managers. Goal formulations are also provoked by party programmes, politicians, associations of interest groups such as entrepreneurs, trade unions, churches, chambers of commerce, sector representatives, etc.

⁶ Therefore, a course in welfare theory should be planned for a master program in public management although the law oriented methods to identify and extract law formulations from legal texts are of dominant interests.

Many goals are determined by the EU. In particular fiscal goals are formulated by the EU, in the constitution, laws, state or provincial laws, municipal laws (decrees), budgeting laws and so on.

There are bundles of goals for states (Kyrer 1972), for which consensus is easy to achieve or which cause conflicts (Shoup 2006), for public enterprises (Hamm 1961; Thiemeyer 1970, 1975; Hauschildt 1964; Witte, Hauschildt 1966; Oettle 1972, Braun 1988), for public administrations more in the form of statements about tasks, goals of the European Union (like EU2020), sometimes goals are formulated as basis for success indicators of a public economic unit.

If several goals exist simultaneously and the **priority of goals** is not fixed (by law, strategy etc.) then the public manager has to formulate priorities and a goal hierarchy. If this is done through voting in a body of public managers. However, what is referred to as a voting paradox can occur, meaning that the manager also deciding individually rationally cannot achieve a rational ordering of the goals (Mueller 2003).

Game theory helps us predict the outcomes of coordinating goals, where the outcomes are called pay-offs and the actions of other public managers as players are called strategies. According to the game situation there are zero-sum or constant-sum games, where the gain of one player constitutes a loss for the other players, or there might be games where there are solutions where all players win by co-ordinating their strategies. Coalitions among public managers might be possible, as might changing coalitions, which make the results of the games difficult to predict. It is important whether the public managers can compromise through the help of side-payments, which in some public management situations are not allowed because jurisdictions cannot normally offer presents. Therefore, games between the public economic units of different jurisdictions also have difficulties in determining goals for joint actions. Moreover, these games need time and there are several factors influencing the negotiations such as threat strategies (e.g. decision blockade), time losses (e.g. not reaching a dead line for project approval), costs of negotiations (price increases because of credits or inflation), time pressures (e.g. because of votes, high court decisions), conflict risks (e.g. avoidance of ideologically critical situations), risk-taking among managers, learning capacity of negotiators, ideas about fair results, negotiation tricks, cheating, confidence creation, reference to ideological values, backing by third parties (e.g. referees or other public offices), the use of rules concerning the negotiating public manager (e.g. not allowing out of office work), the need to spend money because of the budget cycle, existing contract conditions with private partners, fiscal dependencies from other public offices or jurisdictions, and so on. Therefore, forecasting and identifying goals is extremely problematic especially with those management concepts where goals play a leading role as a component.

Then the **measurement of goals** becomes problematic as well. Sometimes goals and their achievement might be measured ordinally – that means one can state only whether one achievement is higher than another. It cannot be determined how much higher the success is (e.g. a ranking of public managers)⁷⁷. With nominal scales a rough classification such as satisfactory or unsatisfactory solutions are chosen. But often goals need to be fixed cardinally. Absolute scales fix the zero point and only one scaling unit is possible (e.g. the service age of officials). Proportional scales have a common zero point but the scale units can vary (e.g. distance in kilometres and miles). The scaling units of proportional scales can be added (e.g. work disutility whether measured in hours or in minutes). Ordinal scales are mostly used with respect to state goals and political goals, and nominal scales with respect to social aims. Economic and operation goals are mostly formulated in cardinal scales. Apart from scaling, the goals must be determined with respect to their content, the

⁷⁷ The comparability of ordinal and cardinal utilities is treated in the textbook of Hindriks and Myles (2006), Chapter 12, for example.

relevant period, the relevant region, the relevant public manager, the relevant economic units and the relations to other goals. Moreover, one should not forget that goals are used as a language to transmit understanding, agreement and willingness, to express compensations, but also to cheat and to threaten and pinch in the negotiation procedures (Friedrich 1977).

For **practical measurement** and success determination there are management tools such as success management for one single goal (e.g. finding out the action with the greatest production (Friedrich 1969)). For several goals, cost effectiveness analysis is available where success (advantage) is measured in physical value and disadvantages in costs. However, given the same costs for all alternatives, the optimal decision can be detected only if one decision alternative is better than the others with respect to all goals. If such a situation does not prevail, a utility analysis has to weigh the goals and convert their achievement into a utility gain. This is done within the framework of a utility analysis where the goals are mostly measured cardinally and social weights integrate the success in terms of goals into a joint utility. Behind a utility analysis there is a goal function similar to a welfare function, but related to special goals, on a few public economic units or a project. Related instruments include indicator solutions, where success is expressed using indicators for success and a balanced score card instrument where relations between past decisions and future success are introduced and expressed via indicators. Welfare oriented is as mentioned above the benefit-cost-analysis, which makes it possible to avoid the formulation of goals; however, the willingness of winners and losers to pay has to be identified.

The goal situation is also characterized by the general goal of choosing a solution within a system of goals, which are formulated as restrictions. But there are also lexicographic orderings of goals. The investigation of goals is important for clarifying the decision alternatives and the decision structure. For public managers, knowledge about utility theory and game theory is important. The integration of risks takes place in decision theory.

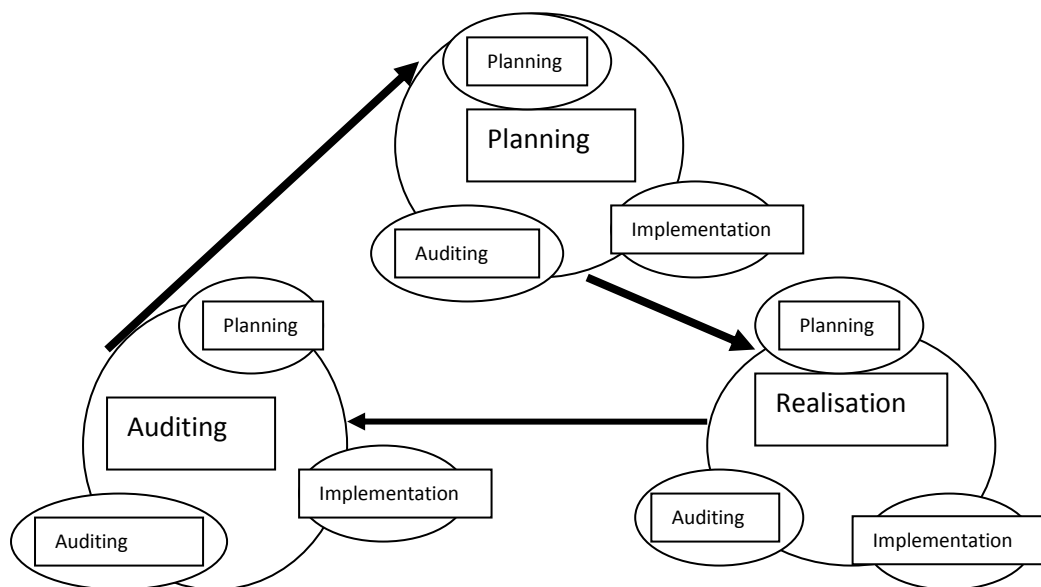


Figure 33. Circle of management phases

Source: Eichhorn, Friedrich 1976

Another important component comprises **the management phases** where public management makes decisions or which phase the decisions are foreseen. There are financial consequences

considering the financial sphere and consequences for services leading to special constellations in the service sphere. The phases are part of a management cycle as depicted in **Figure 33**. In

Figure 34 the management cycle of the management phases of the EU is shown. There are three main stages Planning, Realisation (Implementation) and Auditing (Annual activity report).

The cycles emerge differently according to the management concept that a public office or jurisdiction has developed (see **Figure 33**). Planning concerns decisions made in advance and stored in thoughts, in written form or in other forms. This happens in the **planning phase**; however, this phase itself must also be planned; for example, by setting goals, gathering information, developing alternatives, and decisions, and these decisions have to be implemented and formed into a plan; for example, budget plan, service plan (management plan). This happens in the implementation of the planning. Then follows the auditing of the planning to detect whether it is lawful and coincides with the planning principles to be applied. An **implementation phase** follows where the plan is implemented. There planning is also necessary if a changed organizational framework for the implementation is necessary or to prepare the implementation and to produce the services, to spend the money, and so on. During the implementation, checks also take place which accompany the realisation procedures to guarantee a lawful implementation and the quality of the services. Here cameral accounting might be applied. This is labelled as auditing in the implementation phase. After this phase, the **auditing phase** follows, where in a planning sub-phase the organization of the checks and reports have to be planned. Then the implementation of the control activities takes place and critical issues, mistakes and distortions from the plan are verified. In the auditing phase the results of auditing are presented and reports delivered and the results with parliamentary and governmental bodies and public offices are discussed. This leads to information, which is necessary to correct failures or mismanagement and to provide information in the new planning of the planning phase.



Figure 34. Management cycle of the EU

Source: EU 2013

This cycle can be looked at from the point of view of **business administration** for one public office or from the **economics** point of view for several public offices or sectors of public economic units to be coordinated. In economic theory, these different phases are concentrated in one phase, which can be seen in a very simplified form in the **economic plan of a public economic unit** (e.g. a public office or a public enterprise). Such an economic plan is a very useful instrument of analysis to show the reactions of public management on internal changes within the public office and on changes that stem from the environment of the public office including other public offices, private households, private firms and so on. The development of such economic plans and a public management micro theory is covered in the second chapter of this book. The macroeconomic coordination is treated in the third chapter.

The development of an **economic plan** considers the utility function of the management (including public goals), the production possibilities and techniques, the revenues (budget) and expenditures (including factor prices), the number of products and the inputs. Then the best public management decisions are determined and rules for optimal public management decisions derived. A **coordination problem** can be shown by constructing a game between a ministry (or two ministries) and two lower ranked public offices to decide on a budget distribution and formation. Here we are dealing more generally with the components of management phases necessary to consider in a management concept.

According to the kind of public management decisions we find many types of planning (see [Table 6](#)).

Table 6 Types of planning

Main criteria	Second criteria	Type of planning
Management phases		Planning in planning phase Planning in implementation phase Planning in auditing phase
Planning horizon		Long-term planning, development plan Middle-term planning, several years plan Short-term planning, Budget plan, liquidity plan
Meaning of items to be planned		Strategic planning (form of law) Tacit planning (planning of investigations)
Degree of specification		Global, rough, framework planning Detailed planning (course plan)
Volume		Total planning (planning of a computer centre) Partial planning (Staff assignment plan) General plan (not existing)
Planning of tasks		Programme planning (research programme) Project planning (construction of a plant) Single plan (planning of interviews)
	Service planning	Procurement planning Production planning Delivery planning

Spheres		Financial planning (Budget plan) Management planning
Production factors		Planning of staff employment Planning of materials and equipment Planning of information storage Planning of financial means
Decision object		Goal and task planning Factor and resources planning Product planning
Shaping of organization		Structure planning Process planning
Repetition		One time planning Current planning
Sequence		Simultaneous planning Stage-wise planning
Modification		Inflexible planning (location) Flexible planning (traffic plan)
Openness of planning horizon		Terminated planning (building) Overlapping planning (middle-term financial planning)
Uncertainty		Deterministic planning Stochastic planning Time planning (work load)
Dimension		Location planning Service planning
Position in management		Same rank or equal level planning (public officials of same rank plan)
	Unequal rank planning	Higher-level planning (Formulation of restrictions) Lower-level planning (allocation of patients in a hospital)

The **planning in the planning phase** is devoted to goal planning followed planning tasks (like procurement planning in local governments, see McCue and Prier 2007) or programme planning. It may concern political planning with respect to political fields the unit should become active, and then it concerns a cross-section tasks such as planning staff and budget, or planning public offices in several jurisdictions with respect to joint tasks. They provide the basis for an overlapping department service plan and an overlapping current budget plan. Based on these plans, the planning of the current budget draft and final budget also follows the organization of the steps that deal with the **implementation of the planning phase** and the respective planning for the financial and service sphere. The internal procedure for determining the budget is followed in the realisation in the planning phase. The consolidation of all department drafts “bottom up” leads to budget drafts to decide upon. After legal checks belonging to the **auditing in the planning phase**, the current service plan and budget plan are drafted, which lead to the planning in the implementation phase.

Such procedures may refer to one public administrative unit or a sector of public offices in a jurisdiction with top, middle and low-ranked public offices. Then we have economic planning and coordination tasks.

The budget plan is a very important step. It has to offer an overview of **future revenues and expenditures** to show whether they are balanced (fiscal function, but important also for cash flow management in public units, see Larson 2007) and indicate how the total budget or parts of it serve the achievement of **economic and public aims** (political function), the basis of the **fiscal management** of public administrative units (management function) and to serve as a **basis for legislation** in the legislative bodies (parliamentary function).

Many **problems** are related to the planning phase, which means business or economic administration. There are problems with respect to **the purposes** for including information in plans on public management decisions (e.g. financial information about revenues, expenditures, information of service volumes or capacities and locations). The manager has to determine **which plans** should be provided (e.g. goals, tasks and corresponding service and financial plans etc.), and whether decision-making should be possible in an *ad hoc* fashion without planning. The manager should then decide whether **one plan or more plans** should be elaborated by whom and how they are coordinated. **Why so much planning** is necessary with public economic units is an interesting issue, and this is related to the fact that self-coordination is not possible through internal markets as the benefits of activities are caused by impacts on other economic units in the course of goal achievement, media of exchange is lagging, and existing laws on procedures and planning have to be respected. Planning that includes several economic units **makes it possible to coordinate** them by increasing or decreasing their autonomy and capacities. The problem that arises here is that **who plans for who** and how do managers in top positions internally restrict the autonomy of middle and lower ranked managers, or top public offices the autonomy of middle and lower ranked offices. The question of whether agencies, quangos, or public enterprises should be established for some tasks (Friedrich, Ukrainski 2013) also arises. This question concerns the number and **what kind of public offices should plan** as well as the composition of the planning bodies. Many discussions concern the **planning methods**, the coordination and revision of plans, the regulation of planning, the stages of planning, the flexibility of planning, the methods for determining the best plans, the consideration of risks and uncertainty, etc. How should the plans provide **transparency** for top managers and other non-public economic units and how can they provide options for decision-makers and courts and so on to check them. Further problems concern **when** the planning should take place **and for what period** and whether plans should overlap. How to harmonize the planning period within the **period of government** responsible for the plans of the public offices of a jurisdiction is also discussed. A bunch of problems related to the internal **impact of planning** and the impact on private economic units and economic aggregates like demand, GDP, employment price level, costs, legal impacts, winners and losers from planning.

It is important to use all **planning instruments** and options in an optimal manner in public management. This is the case when the marginal net benefit from all planning activities is the same. However, this supposes that there is a function showing the planning success in dependence of all the instruments of planning, but also considering all the dependencies between them. As such a function is not available, the best planning cannot be determined exactly. Therefore, public management makes use of experience with planning and principles, which makes it possible to avoid many planning mistakes. For the development of the budget those **planning principles** are: completeness, unity of the budget, centralisation, precision, predetermination and specialisation with respect to content, volume and period, transparency and publicity. More general principles concern continuity, flexibility, simplicity, clarity, potential for auditing and consideration of interdependencies between plans.

In business administration and economics the fact that economic units should plan for those objectives or decisions aimed at **eliminating bottlenecks** is also discussed. It is questionable whether such an orientation also exists in public administration. Initially, goal achievement by performing according to the law often has greater relevance than the reduction of bottlenecks. Where public

management can decide about the goals itself, it might turn its determinations towards activities where no bottlenecks are relevant instead of trying to reduce bottlenecks. If many restrictions on activities stemming from laws exist thereby hindering the reduction of bottlenecks, a public office might choose a planning strategy that turns to non-bottlenecks.

The **planning in the implementation phase** can be quite voluminous if a change in organizational structure becomes necessary, or minor if there are only a few preparations needed to realise the plan within a given administrative structure. To develop an extended organization, the task analyses are followed by a task synthesis, where different task analyses are joined. The tasks get divided into task elements that are assigned to positions. Out of this assignment the positions and those possessing them receive their duties and responsibilities and thus their competences. The positions are concentrated in departments that show instances. Within the department, there are instances that are hierarchically ordered.

In business administration, one has developed basic **forms of organization**: single-line and multi-line systems, divisional structures and matrix organization. The result of the entire task synthesis forms the **structural organization of a public economic unit**. Task analysis and task synthesis becomes necessary if several public offices get involved. Here the assignment of tasks and competences is not through single positions but public offices, which can be concentrated within **administrative sectors** with a hierarchy involving top, middle and low-ranked public offices. These can form single-line systems. There can be monocratic, directorial but also collegial decision-making processes among those public offices. Instruments of participative decision-making like the withdrawal of decision-making options by a higher-ranked public office, the use of standard evaluations to make decisions, and to formulate just restrictions for decisions are important. There are also possibilities to regulate via competition, and rules of behaviour, such as balancing budgets, built-in-flexibilities or formula-flexibilities. The public offices can be regionally centralised or dispersed and allocated to jurisdictions. The basic forms of organization known from business administration occur in economic public management as well.

To organize **administrative processes**, analyses that show the elements of the production process are also a necessary. They are analysed and again synthesized to a section of the production process. They are also formed with respect to working sections, position sections, production time sections, an information gathering section and local production sections. The production process can be more regulated in detail or just common practice. They might be modelled on production functions applied to find the best production solutions. These regulations can also be shaped for the coordination and division of labour among several public offices to facilitate planning processes in the planning of the implementation phase.

If no reorganization is necessary, there is only the case of the performance of plans in the implementation phase. However, **implementation activities** might underlie changes because of changes in management, laws, factors of production, shortages and price changes, changes in production functions, environmental changes, new risks, etc. This can lead to business administration problems for one public office or the economic management coordination of several public offices, public economic units of one jurisdiction or several jurisdictions. Then there is also the **auditing in the implementation phase** in the form of checking cases, current checks, formal and content checks on decisions, etc.

There are again many business administration and economic **problems in public management implementation**. Problems stem from the time horizon, because the structural and process organization can be altered, also in the long run many other circumstances can change. This is obvious in relation to functional, territorial and fiscal reforms, and is related to the question of how regulated an administrative sector should be and the extent to which the organization of public

offices of different jurisdictions have to be similar in order to simplify communication and coordination between them. As market relations among public economic units do not normally prevail, there must be a stable grid of the division of labour, communication, etc. and general rules have to determine what has to be produced by whom, at what time and how much. Therefore, public economic units are not in a constant game of survival, and there must be stable rules of cooperation and participation. One problem is who should implement the power of organization, whether a subsidiarity principle should be applied, and how the organization power is assigned to several public offices like ministries. Problems cause the use of organizational techniques and the determination of optimal organizational forms in particular as the organization of one public office must often coincide with that of other public offices. Therefore, the time horizon for organizational change is a special problem for public management. The dependency from political actions, mildewed by strong position of public officials, the influence of private enterprises on public management implementation through PPP, the difficulties of impact analysis, and the influence of organizational changes on possibilities of corruption are real problems. Again the best organizational structure is found when the **marginal net benefit of all instruments turn out to be the same**. That is also due to the performance measures in implementation. As there is no approach to act according to this optimality rule, the public management follows **some implementation principles** such as: assignment of competence to responsibility, dominance of objectivity and impersonality, safeguarding competence, priority of written information, pressure on accountability, compliance with the hierarchy, compliance with the span of control, unity of orders, formulation of general rules, consideration of dependencies of content, compliance with official channels, delegation of decisions, requirements of coordination, formulation and acceptance of referee rules, use of existing capacities, minimizing instances, minimizing lead times, transparency and clarity of implementation, unity of administration, concentration of tasks in one administrative district, access to public offices for clients and other public offices, guaranteed stability, necessary flexibility, safeguarding continuity, priority of general regulations. A never-ending discussion concerns the priority of single case and general regulations.

The Auditing phase plays an important role in public management. Therefore, many kinds of auditing is considered.

Table 7 Auditing criteria

Criteria	Second criteria	Kind of auditing
Management phase		Auditing in planning Auditing in implementation Auditing in auditing
Timing		Short-term auditing (cash) Middle-term auditing (budget) Long-term auditing (Audit of efficiency a public office during several years)
Auditing in the administrative process		Pre-check (in advance) Current auditing (service audit) Auditing after finalization (constituency control)
Volume		Total auditing Partial auditing
Tasks		Program audit Project audit Single-measure audit

Spheres	Service auditing Financial auditing	Procurement audit Production audit Delivery audit Budget audit
Production factors		Management audit Staff audit Inspection of material and equipment Information audit Budget audit
Formality		Formal audit (lawfulness) Content audit (efficiency)
Correctness		Accounting audit Material audits (building inspection)
Interests		Check of lawfulness Check of purpose
Meaning		Political auditing Economic auditing Lawfulness check
Division of power		Parliamentarian audit Government audit Administrative audit Judicative audit
Position of auditing instances		Internal revision External auditing
Auditing controller	Public Private	Public auditing Auditing by groups (trade unions, parties) Auditing by single private subjects (service receiver, press)
Owner		EU auditing Federal auditing State auditing Municipal auditing
Subject		Public administration (School inspection) Private firms (industrial inspection) Private households (Health inspection)
Auditing instruments		Bureaucratic audit Technical audit Lawfulness audit
Repetition		Single auditing Current auditing
Announced auditing		Announced audits (Examinations) Surprising audits (military inspection)
Degree of voluntariness		Voluntary control (Swot analysis) Compulsory control (audit by administrative court)
Immediacy		Direct auditing (self audit) Indirect auditing (Audit by monitoring court)
Position in administrative		Horizontal audit (within a municipality,

hierarchy		fiscal public office) Vertical audit (by state of a municipality public office)
Concentration		Audit by monitoring court Cooperative audit by several public offices (by parliament, court of monitoring, etc.)
Centralisation		Central inspection (ministry) Decentralised audits (auditing municipalities)
Territory		EU auditing National auditing Regional auditing Local auditing
Kind of task	Single tasks	Education auditing Defence auditing Etc.
	Several tasks	Budget auditing

The **planning in the auditing phase** is directed towards the goals of public management and the kind of implementation that has taken place. It gains importance if the auditing needs re-organizing. Then again task analysis and task synthesis for auditing have to take place to develop an adequate organizational auditing structure and to determine the positions, department and public offices responsible for the checks. The same has to happen to the task analysis of the auditing processes and this must fit then to the auditing process. The section processes are allocated to formal checks, content checks, efficiency checks, organizational checks, etc. The chains of checks might be ordered according to a network analysis and plan.

Success accounting takes place as cost controls, and investment accounting, but also in the form of social net benefit analysis. The **implementation of auditing** can be much more standardised even through the use of computerized checks or enforced by laws regulating the checks and section processes in detail. Public management decisions become necessary if a relatively large scope of decisions on the way and circumstances of auditing are available and in the case of conflicts on the way and the results of auditing. Some controls take place internally and others by external public offices such as monitoring courts. Last but not least, the checks are controlled **by auditing the audits** to avoid mistakes. Special departments exist in some public offices or public offices within an administrative sector of a jurisdiction to check bills and payment processes.

With respect to economic public management for administrative sectors or **public offices** of the same or different jurisdictions, many public auditing offices exist. They appear through task analyses and task synthesis with respect to several public offices. Examples are parliaments in the EU, central governments, states, municipalities etc., monitoring courts in the EU, central governments, states, municipalities, departments in top or middle-ranked public offices, public offices of municipalities, constitutional and administrative courts as well as labour courts, criminal courts, civil courts, but also associations in private and public law. Auditing is governed by many laws determining what has to be monitored, and which public office is responsible for checks, reporting and decision-making. The external control is mostly performed by the departments of the monitoring court that reports to the parliaments and the government, where the parliament checks the report in its budget committee and decides on the results of the report or demands further investigations. Then the discharge of government may take place as a further step. The monitoring of the EU is also highly developed. The monitoring is as intensive as it is extensive. The monitoring court can examine the administrative

process of public offices of other jurisdictions, the participants in firms of private law, subjects of private law, those of public law and special public funds. The courts are also engaged in the auditing of the auditing phase concerning several public offices especially of different jurisdictions. They check laws and regulations or deal with conflicts among monitored public offices and monitoring courts, departments etc. Within administrative sectors top-ranking public offices check public offices of lower rank and private firms like press or private associations, and interest groups also try to check the auditing economic units.

The problems of auditing are manifold. Even the delineation of task auditing analysis and task auditing synthesis and the analysis of section processes and synthesis are problematic. What to check is also a relevant question whether to check the auditor or the objects of their checks. With respect to the **objects** one has to decide to audit the inputs or the outputs or the output results and impacts. Output oriented checks deal with quality control, success and lawfulness concerning the appropriateness, necessity and proportionality of administrative measures. Input oriented checks like material checks, management checks, production checks, absence checks, etc. are simpler to perform. However, the identification of what is input and output, especially if several public offices are involved causes difficulties. Dominant in public economic units are fiscal checks, but the real transactions within and between public offices govern the administrative results. Lawfulness checks refer to the correspondence of administrative operations with the order of law but less to the achievement of goals.

Control difficulties result from the fact that many administrative outcomes are due to impacts on other economic units, public offices or private economic units. Therefore, many items of interest in business administration such as costs, bills, capacities, prices, etc. or in economics such as market structures, processes and results, time lags, consumption, investment, income, etc. play a role. According to the many different services provided, one receives innumerable items to be checked. Therefore, an on-going discussion concerns how many checks are necessary to inform about goal achievement, to prepare decisions, and to perform internal and external coordination. The form of check and their impact on adaptation processes form another problem area. How many checks should be based on laws or on self checks and official participation? Who has to check is a relevant question. There are the public offices of auditing, departments, top-level public offices mentioned above. Should checks be centralised or decentralised? Should they be performed by managers, or public officials? Should the controller possess the rights and independence of a judge, or should they be performed by private economic units? The problem is to separate the political responsibility from that of the acting public offices, e.g. failures in urban planning lead to unsatisfactory result of a public office because clients have difficulties to park or to reach it. Especially in business administration many methods of auditing are discussed, e.g. statistical methods of sampling, the use of machines, benchmarking, interviews, commercial accounting, cameral accounting, national accounting, social accounting, etc. The means for checks are many. The auditing instruments have to be timed, and assigned with respect to content, staff and legal relations.

An **optimal mix** would again require that the marginal net-benefits of all auditing instruments turn out the same. Such a situation cannot be achieved by public management. Therefore, practical public management decisions are oriented to **auditing principles**: the promotion of goal achievement through auditing, the efficiency of auditing processes, minimal costs of auditing, minimizing the number of audits, no personal union between those controlling and those who get checked, dominance of self control, respecting auditing competence, independence of the auditor, priority of direct audits, respecting hierarchies of auditing, performing the auditing requirements, performing the audit of persons and measures, instalment of positions for audits in a single or several public offices, a speedy sequence of audits, use of audit standards, orientation of audits for critical facts, orientation of audits to find out differences between planning and realisation, exactness of audit results, the possibility of auditing processes being adapted, the lawfulness of audits.

Researchers in cybernetics stress the meaning of feedback between the auditing and the planning phase, which is institutionalized in the EU management cycle (compare

Figure 34). However, there are difficulties because of the very many products some public offices are delivering. Moreover the feedback should also be among the planning, realisation and auditing activities within the phases, and not only between the planning and auditing phase. A theory of checking is only partially available, such as inventory models, feed back models, sampling models, etc. Whereas in the planning phase attempts at an economic planning theory exist, and in implementation at least a production theory has been developed. A more general approach to a **theory of auditing and coordination** is still at the first stage. This is an important task of public management theory as its political, social, economic dependencies and coordination activities are not yet sufficiently modelled, and the motion of planning equilibrium seems not very powerful there.

The **levels of public management** (Pollitt 2003) have to be related to the management definition introduced above. Goal-oriented decision-making, which supposes a broad scope of management decisions and related activities, shows an essential impact on spheres and sections of activities and they have to induce many following decisions. These features can occur in several intensities. If one takes the three categories high, middle and low, this results in management decisions where all intensities are high or at least two of them, and these are characterized as top management decisions. Those where all are low or one is middle are classified as low public management decisions, and those with a mix of high, middle and low form middle management decisions. It follows that top management prevails where top management decisions concentrate, middle management where middle management decisions are found, and the low public management deals with low management decisions. Top-level management can be characterized by four additional dimensions, which point to the positions where those top decisions are made, sections of administrative process which coincide with top decisions, individuals who are involved, and the public offices where these top decisions are going to be made.

The **top positions** are mostly that of ministers of a jurisdiction, secretaries of the state, presidents of top public offices, state statistical office, presidents of directories, and directors of low public offices, but also mayors of municipalities and vice mayors, the directors of municipal public offices or departments. Within one public office, the leading director normally is of top management and engaged in planning and auditing, a top public office has such obligations in relation to other public offices. The **top processes** concern drafts for laws, government discussions, coordination of departments, decisions on important projects, basic interpretations of laws, decrees, staffing of top management positions, choice of central budget planning, but also in high public offices the decision on programmes, projects, etc., the directories have to coordinate low level public offices, to monitor their work, to solve staff problems and deal with the participation of public officials, low level public offices might deal with top decisions when launching proposals for laws, some important reports, or public relations. Similar activities and decisions for municipalities and their top-level processes appear. The **individuals who make top decisions** we call top managers; they are sometimes not identical to those possessing a top position such as personal assistants, some referees, experts, members of committees, political advisors, representatives of public officials, controllers, supervisors or reporting experts or consultants, planners, etc. Then there are **top public offices** like parliaments, the office of the chancellor or minister, monitoring courts, the central bank, ministries, city council or managing public office, municipal public offices in relation to municipal enterprises, etc.

In a similar way one identifies **middle positions**, such as group leader positions, vice directors of a public office, municipal director, the **middle management processes** concern the elaboration of drafts for laws, coordination, development plans, service plans, the preparation of decrees, development of information systems, business distribution statutes, proposals for budgeting,

supervision of staff, etc. **Middle managers** can also be press officers, secretaries, computer specialists, security experts, controllers, etc. **Middle public offices** are often directories in fields like police, military civil service, schools, forestry, municipal trusts, etc.

Low management positions such as supporting referees, section heads in central government public offices or in municipal offices. They are oriented to guiding the implementation of administrative actions. The **low management processes** deal with information gathering and documentation, editorial work, the implementation of promotions and administrative measures, law enforcement, consultation of clients, etc. **Persons of low management** can be editors, secretaries, programmers, volunteer assistants, etc. The **low-rank offices** are tax collecting authorities, prisons, health offices, etc., in municipalities the administration of homes for elderly people, and some installations, procurements, fiscal administration, etc.

The techniques to identify management decisions, to realise them and to monitor the results are called management techniques. They are section processes within the framework of process organization. They comprise a set of organizational, institutional technical or logic rules. Due to the exactness and specification of the rules to be applied one can distinguish between qualitative rules and quantitative rules (Table 8).

Table 8. Management techniques

Strength of rules	Criteria	Kind of technique
Qualitative management technique	Techniques to identify ideas, problems and goals	Brainstorming Scenario writing Delphi method Synectics Semantics
	Techniques of problem identification	Indicator method Morphology method Relevance tree method Decision tree method Flow chart techniques
	Techniques of negotiations and coordination	Role play techniques Management and planning games Conference techniques Concerted actions
Quantitative management techniques	Techniques of information gathering, information processing, and evaluation of information	Business administration oriented and economic oriented accounting Statistic and econometric methods
	Techniques of project evaluation	Investment accounting Economic investment accounting
	Algorithms, general	Mathematical programming Heuristic programming
	Special algorithms	Queuing theory Simulation techniques

		Game theory Network planning technique Others
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Source: Similar Eichhorn, Friedrich 1976

Brainstorming considers a technique where specialised and creative managers show their opinions about a problem with the aim of developing ideas. The participants should not criticise each other. This method can be used when planning public offices. **Scenario writing** refers to a group of managers trying to detect a development resulting from a situation until a given time horizon. They engage in planning and top political administrations, development offices and so on and often take the form of a closed meeting. The **Delphi method** concerns a series of interviews of experts on future developments where the results get aggregated to a group answer, which is followed by a new round of interviews. Again this method is relevant for planning public offices. **Synectics** name methods that use analogies for other problems; for example, in private firms, in other sectors. Again this technique seems adequate for top public offices especially with political tasks. **Semantics** are methods for identifying the meaning of laws, rules, and so on, using the analysis of formulated statements. This method, used by lawyers and judges, is common in public offices at all levels. **Indicator methods** are much in fashion to indicate problems and their causes, to describe the features of a problem and to evaluate a situation by formulating indicators – in the framework of scorecard methods. Indicators are used in planning public services but also to report about the success of administrative services by showing the number of clients served, the number of events, students, examinations, kilometres of highways built etc. **The morphology method** is a device to structure problems in order to find solutions more easily. It can be applied in most public offices. **Relevance trees** show the connections between parts of a problem in the form of a tree – for goals, measures, activity lists. This method is in use in planning public offices in defence, health administration, research, development and business promotion offices in large towns, public utilities etc. **Decision trees** show chains and sequences of decisions and their probabilities. They are applied in planning but also in implementations, and auditing. **Flow chart techniques** are used to show complex processes and are relevant in process organization. They are used to demonstrate the steps in the production of a service or a decree, to plan and realise a project. This is applied in many public offices. The **role play technique** is used to understand the aims, behaviour, wishes and strategic situation of a negotiation partner. This technique is important for public offices where coordinating, balancing interests, developing basic solutions for achieving consensus etc. takes place such as in parliaments, government head offices, or decision bodies in several jurisdictions, or in public offices to negotiate with staff, clients and so on. Decision situations with several decision-makers and the need to consider the impacts of decisions as well as decision results can be demonstrated using **management and planning games**. They reflect a mathematical model or solely descriptions of situations together with a set of rules for the game (e.g. for budget conflict resolution). As they are costly and require highly educated managers, they get applied in top administration (e.g. the military, or for educative purposes). There are techniques for **organizing conferences** such as check lists, invitations, lists of topics, order of speeches, planned decisions, etc. which should support the success of conferences; a technique which can be applied in public offices of all levels and kinds. **Concerted actions** refer to voluntary meetings and decisions of public and private decision-makers to create an informative dialogue to find solutions to a problem. They are sometimes necessary in top public offices to obtain agreement on a policy, e.g. fiscal policy, or on an urban development plan.

Business administration and economics oriented **accountings** are used to detect transactions and stocks and dependencies between them. They are mostly used for ex-post analysis and comprise commercial accounting, cameral accounting, social accounting and national accounting. Commercial accounting is to assess the profit and change in wealth of an economic unit or for owners (e.g. a

jurisdiction), and applied in public enterprises and in Estonia also in public offices. Cameral accounting is used to check the process of fulfilling a plan (e.g. performance of the budget plan) and to identify differences between planned items, items under progress and actual items. This is used in German speaking countries for some public offices and for several jurisdictions (approx. 150 years). The social success of a period of activities of an economic unit and its increase in social wealth is to be detected using social accounting. This accounting is under development and sometimes used for public enterprises, public utilities and so on. National accounting assists the measurement of the production of an economy and its sectors in terms of income, and tries to assess the national wealth. This is applied in national economies by statistical offices, but also for states, regions and partly municipalities. Statistical and econometric techniques are scientific methods for detecting, describing and using observations. Econometric methods serve to quantify economic dependencies with the help of statistical methods.

The **statistical methods** are used to document and characterize items, to assign them to groups; mathematical statistics provide tools for describing distributions or approaches to detecting dependencies by correlation analysis, to identify factors of influence (e.g. factor analysis) or to discover the development of data in time (trend analysis). These statistical methods are applied in many public economic units to publish and explain data. **Econometric procedures** are used to quantify economic dependencies such as demand functions for services, supply functions for schools, production functions, input-output relations, cost functions, fiscal relations and impact analysis. The econometric techniques are more applicable for top public offices or specialist research offices. **Investment accountings** are mostly applied for **business administration problems** in public management. They are used to determine whether a decision alternative is beneficial, to choose among decision alternatives, and to find out the optimal lifetime or restitution of a measure or equipment.

The static methods do not consider the timely distribution of advantages and disadvantages. They occur as cost or profit comparisons or as rates of return or as pay off methods and are used to compare investments in all kinds of public offices especially for procurement decisions. The time distributions of revenues and expenditures are met with present value analysis, internal rate of return methods or annuity methods. They are used in public offices too. Less applied are more advanced final stage models and mathematical programming for production and investment programmes in public offices? The **economic investment accounting** consists of effectiveness analysis, (achievement of one goal), cost-effectiveness analysis and utility analysis and benefit-cost-analysis. Such investment accountings are required by EU law, and national budget and planning laws for the respective public offices. **Mathematical programming** is used to find an optimum according to a goal function within restrictions. This includes linear programming where the goal function is linear or non-linear programming where the goal function is of higher power. The application of this has become extended because of the greater efficiency of computers and data processing. The problem is that appropriate mathematical models for describing the problems are needed, e.g. for transportation, the allocation of public offices to locations, time saving in rescue stations, etc. Those techniques for planning public offices, research institutes and special planning departments are applicable. Difficulties are caused by the high level knowledge that the managers need to possess and the difficulties to learn to apply the specific knowledge together with management techniques. **Heuristic programming** is used to find acceptable solutions, the methods describing the search steps to find solutions, and to model the problem. The difficulties to overcome are similar to other programming. In some public offices, for example, postal offices, transportation, security and rescue, **queuing theory** is applied. This is used to reduce bottlenecks and reduce service times, which occur in many public offices where clients get served personally such as health services, insurance services, inhabitant registrations, etc. **Simulation techniques** are experimental techniques to detect solutions in a model by varying the parameters of equations. These parameter variations are like experiments; they make it possible to detect solutions and impacts when the model conditions change. If the

public office has such a model at hand (e.g. a development model for a region) then the implication of different conditions and different administrative measures can easily be shown. Such complex models are difficult to develop and in Estonia nearly not available. Therefore, the application possibilities are limited to research institutes and the central bank in Estonia.

Game theory is applied to determine conflict resolutions if the actions of decision-makers (strategies of players) influence the result (pay off) of the action of another decision-maker (player). This is a kind of competition theory for non-market coordination. According to the number of decision-makers and the strength of the conflict (constant-sum games, where one player gains and the other player loses, or non-constant-sum- games with possibilities for better solutions for all players) the outcome results in different solutions. Game situations prevail often in military, budget planning, regional competition, town planning, political campaigns and so on. They can be played in different public offices. They have also been tried in governmental public offices. As mentioned above – **flow chart models** are used to model time or cost creating processes to plan, realise and check particular projects. They are used to find the critical time path for a project (CPM, shortest termination time) or to detect the minimal cost process. PERT (program evaluation review techniques) – this technique is applied where public projects are planned (e.g. military, security, buildings, town renewal, firm settlement, infrastructure investments, etc.). It is in use for all levels of public offices.

There are many **other special techniques** as well; for example, to lay out buildings, to determine locations, hubs, to allocate factors like real estates, equipment, materials, staff, to plan production, to build up infrastructure networks for hospitals, to forecast revenues, and to solve special problems in some administrative sectors. They have to be treated in the textbooks in special administrative sectors.

Special components exist to enforce decisions, which refer to the incentives to realise decisions. They and their dependencies are sometimes referred to as the incentive systems (Likert 1967) of an economic unit. The kinds of incentives are shown in [Table 9](#).

Table 9. Kinds of incentives

Categories of incentives	Kinds of incentives
Social	Management style Group assignment
Career	Training, education, capacities increase Advancement
Monetary	Income Success dependent income
Institutional	Participation Advices, information

Source: Eichhorn, Friedrich (1976)

Social incentives comprise rewards for individuals in relation between higher ranked and lower ranked officials or in terms of social groups giving the members of a group an important position by belonging to the group compared to non-members. This concerns the **style of management**, which characterizes how higher-ranked management influences the lower ranked management to perform the decisions of the higher-ranked management. This concerns vertical relationships within a public office, but also as a problem of economics between public offices of different managerial rank and between public offices and private economic units. **Career incentives** are those incentives that consist of preparations for an advancement (e.g. vocal education, training) and the advancement

itself. They can appear within one public office or between public offices (e.g. a secondary school is turned into a senior secondary school). The **monetary incentive** may consist of income increases (salary) through a shift to another income group or achievement salary. This can happen with respect to one public office but also among public offices if some public offices receive higher paid positions for its civil servants or budget increases. **Institutional incentives** refer to the competences of positions which can be enriched in particular with respect to management decisions. Again this can happen within one public office or among public offices. This may also take place in exchange for advice in decision-making or the requirement to inform special public offices. These are incentives that can also be applied to set incentives in horizontal cooperation.

In respect to **management styles**, researchers differentiate the authoritarian management style of leadership from the cooperative management style. With the **authoritarian style**, the will of the Leader gets imposed without considering the will of the subordinated staff member. **Charismatic leadership** makes it possible to voluntarily synchronize the will of the subordinates with that of the leader. Such a leadership style might be found with political leaders and in governments. However, in democratic public administration, the top managers have to consider restrictions in leadership which prevents the practice of this kind of management style in public offices. One of the authoritarian styles concerns the **patriarchal leadership** style, where a leading manager acts like a family father. This may occur in small public offices like in the management of homes for the elderly or in governments managing several public offices. With the **autocratic leadership style** the top manager uses an administrative body to impose his will. This leadership style is mostly illegal in democratic society, and may be applied briefly in times of crises (e.g. war). Another authoritarian leadership style is the **bureaucratic**. Here the will of the top managers is bound to the law, the rules of management and the professional competence of the bureaucratic instances. Transmission of the will and decisions of top managers proceeds according to existing rules and conventions. The top manager takes lawful decisions and are not in conflict with the principles of the bureaucratic organization (e.g. features of Max Weber). This kind of leadership prevails in many public offices that execute laws. Less often this management style is practiced between public offices in particular if they belong to different jurisdictions. The bureaucratic management style reduces the number of decisions and coordination and the resource requirements. It has been discussed whether the number of decision alternatives is reduced in a way that the best decisions become excluded.

Cooperative management styles consider the will of the subordinate managers. This can lead to different decisions or to a voluntary change of the will of the subordinates. The kind of cooperative leadership is also linked to the power position of the leaders and their dependency on the knowledge of the subordinates and of possibilities to apply other incentives, which lead the subordinates to give up their own will. A joint will is formed with a **collective management style**. In the **laissez faire style** no subordination of will exists and imposition is not possible if the wills are countervailing.

There is discussion of the advantages and disadvantages of cooperative leadership for public economic units. The cooperative style should imply **advantages** that motivate staff to higher efficiency, the staff participate in problem solving and administrative performance, the staff become interested in satisfactory results, responsibility improves, number of failures are reduced, confidence and partnership relations increase, interests are balanced, resistance becomes reduced, information and specific knowledge of officials can be used, more flexible performance and the goals of participants are considered. The following **disadvantages** are also mentioned. Public goals can be changed, the subordinates gain power, non-competent subordinates influence the results, competences become less clear cut, the authority of the top managers is reduced, secrecy cannot be kept, resistance can be organized more easily, the pedagogical skills of top managers might be too low, the leadership causes high costs and time losses, the relationship between public offices and private economic units may be corrupted. Whether there are net-advantages depends much on the kind of management concept in which the management style is a component and element.

The literature on **optimal leadership styles** has not solved the problem of optimal leadership. Again a mix would be optimal if all leadership components lead to the same marginal net benefit; however, this must be achieved for all management components. The approaches offered in the literature like the contingency model (Fiedler 1967, Kupsch 1974) try to detect dependencies between management style, the management situation (characterized by poor position, task structure, relations to subordinates) and efficiency. According to the combination of these determinants, another management style seems favourable. However, the findings suffer from the imprecise definition of management style, difficulties in describing the task structure precisely. It is difficult to measure effectiveness. All these difficulties appear especially with public offices and public enterprises (Eichhorn ,Friedrich 1976). This problem should be considered within given management concepts.

4.2. The Management Concepts

As mentioned above, a public management concept is determined by the leading idea of how to improve management decisions. From the list in Error! Reference source not found. **Table 10** one can learn that rather **different ideas** exist that cause different **public management concepts**. These concepts do not exist in their pure form in reality and it has to be noted that presented here are only those considered to be relevant for the public sector; the number of management concepts for the private sector is much larger. Even the last one, public cooperate governance, which is actually in fashion, is mostly a codification of existing management concepts in practise. It is still discussed in the literature, whether it is a management concept at all.

Table 10. Leading ideas of management concepts

Management Concept	Leading Idea
Harzburg model Höhn (1969); Grünwald, Bernthal (1983)	Improvement of management decisions by participation in decision making through delegation
Management by objectives Drucker (1954); Sherwood, Page (1976); McKonkie (1979); Odiorne (1965), Levinson (1970)	Improvement of management decisions by goal orientation of decision making and implementation
Planning Programming Budgeting System Greenhouse (1966), Reinermann (1975)	Improvement of management decisions by orientation of decisions and their implementation to goals and integration into a budget planning system.
Zero Base Budgeting Langner (1983) Lynch (1990)	Improvement of management decisions by orientation of decisions to a test whether activities are necessary at all (zero base) and at what level they should be performed.
Sunset Management Friedrich, P. (1982) Steinhaus (2008)	Improvement of management decisions by Parliamentary audit and revision of necessity of laws, programs, and public economic units
XYZ	Improvement of management decisions by orientation on long-term goals and survival
New public management Pollitt, Bouckaert (2004); Blanke (2005); Schedler, Proeller, (2006); Lynn	Improvement of management decisions by decision making like in a private firm with respect to goals and methods.

(2006); Bogumil et al. (2007);	
Task oriented Management Eichhorn, Friedrich (1976)	Improvement of management decisions by orientation of management to tasks which lead to monistic management with constant tasks or pluralistic management with changing tasks.
Public governance Bovaird, Löffler (2003), Herzberg (2013)	Improvement of management decisions by net-working

Source: Eichhorn Friedrich 1976, Friedrich 1982; Eichhorn 2003

We consider here **public management** to be when management decisions are taken by public officials or representatives oriented to the achievement of public goals on the basis of public property. The process is depicted in [Figure 35](#).

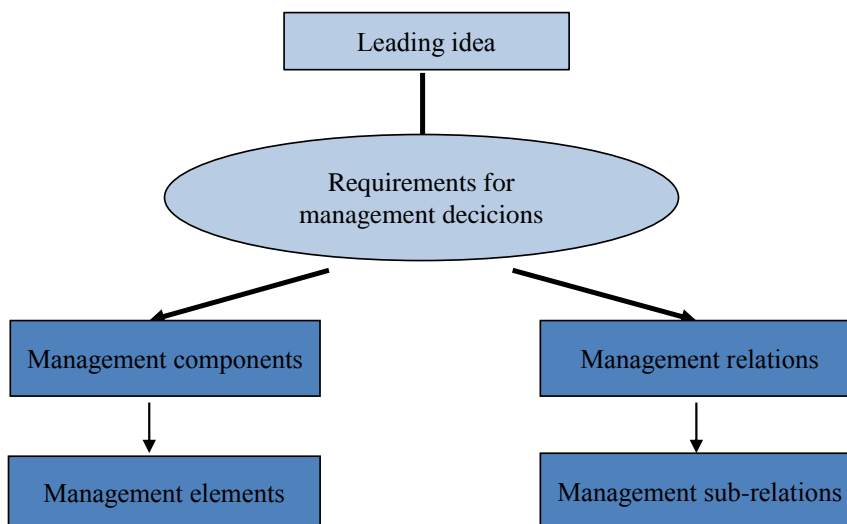


Figure 35. The Management Concept

Source: Eichhorn, Friedrich (1976: 361)

The leading idea **about successful decision making** in public offices and public firms determines the requirements for appropriate decisions. **Management decisions** concern those decisions in a public office or a firm that involve a larger scope, concern many spheres and sectors of one or several public economic units and that can cause many subsequent decisions. Moreover, they determine which **management components** and **which management relations** are relevant. Management components consist of management goals, management phases, management levels, management tools and management styles. Management components incorporate management elements such as goals, planning, implementation, audits, management levels (top, middle, low level management), qualitative and quantitative tools, management styles (e.g. laissez faire, paternalistic styles), etc. **Management relations** refer to relations between components and elements, e.g. hierarchical relationships, information relations, assignment relations, sequence of relations, etc. One can summarize that a **management concept** is the essence of all related management components and elements oriented to management decisions that follow a leading idea.

The Harzburg model

The German debate in the 1960s centered on the strengths and limitations of a management concept known as the Harzburg Model (Harzburger Modell in German), which was developed in

parallel to the Management by Objectives in the USA. The concept was named after the Academy for Business Leadership in Bad Harzburg, Germany, where following the seminal work of Reinhard Höhn (1969), the concept became popular and was successfully applied in business firms (Grünwald, Bernthal (1983)). Later it was experimentally used by forest administrations in Baden-Württemberg and Bayern, but also in the Finance Department of Fürth and in some regional authorities in Rheinland-Pfalz (Eichhorn, Friedrich, 1976). Furthermore, this model has been widely disseminated among managers in business and public administration in West Germany, Switzerland, and Austria. The model has been also known as leadership through the “co-worker relationship”, meaning that management decisions are improved by delegation of the decision-making power to co-workers (see also Table 11). It is based on the idea of creating workers who are responsible and have initiative, self-actualisation and self-control. Therefore a chain is built of responsibilities of top, middle and low management, which are described in a general leadership directive (*Allgemeine Führungsanweisung*), and the job-descriptions determining the autonomy, competences and tasks, etc. in such a way that the decision-making autonomy at the job level is clear. As far as the delegation of decision-making autonomy lies at the heart of this concept, the goals are not explicitly referred to. The management tools and techniques play no relevant role, but rather important are management levels, management phases in planning, implementing and the auditing of activities, but also management style (both bureaucratic and cooperative).

Table 11 The Harzburg Model

Leading idea:	Improvement of management decisions by delegation of decision power
Management components:	Less reference to management goals (only in exceptional cases)
Management phases:	
Planning:	Coordination and assignment of tasks
Implementation:	General leadership directive involving management competences and organization, unity of task and decision making, clearly defined delegation possibilities, job descriptions and degree of autonomy, hierarchical order, authorization to sign (participation)
Audit:	Assignment of audit competences, audit of success, types of checks, sanctions, critique of upper level officials, audit of the compliance of the decisions made to the scope and autonomy delegated
Management levels:	Tasks of top management, determination of tasks for other management levels and of officials, prohibition of the transfer of tasks between levels
Management tools:	Qualitative techniques, discussion of duties
Management style:	Bureaucratic when assigning tasks, cooperative related to decision making
Management relations:	Hierarchical relations between management levels, relations between tasks, assignment relations about information between management levels, official channels, horizontal information, supervision relations, sanction relations

Source: Author’s elaboration of Eichhorn, Friedrich, 1978.

The Harzburg model is a management concept created for private firms. However, it could be adequate for application in the public sector, achieving coordination among public offices, as it is an organizational concept. According to Eichhorn and Friedrich (1978, p.367), it would be suitable in the following situations, where, for example:

- A public office sets for another public office limited or temporary goals;

- Downstream offices are coordinated by the upstream office in terms of setting responsibilities;
- The re-delegation of legally assigned responsibilities to another public office;
- The creation of auditing offices;
- Negotiations of the responsibilities among the representatives of downstream and upstream public offices;
- A bureaucratic management style among public bureaus and a cooperative management style among the public units having greater autonomy (e.g. universities).

The **advantages** are related to clear competences, less uncertainty in all management levels and less time needed for decisions, as these are made at all levels where the tasks and competences are located, and improved official assignment and motivation. The model emphasised the need for managers to pass to subordinates information and advise rather than give specific orders (Grünwald, Bernthal, 1978). The concept allows training on the job to achieve high qualifications as long-term staff is employed by applying social incentives and mid-term job rotation (e.g. tenure system of public officials).

Disadvantages lie in how it lags in participation in management goal setting, its limited coordination, how it does not account for inter-personal relationships or individual self-actualization (vs public goals), and how it still uses the rigid autocratic power, bureaucracy, etc. The model promotes compartmentalized thinking, bureaucratic aspects, rules, etc. It is a rigid model that does not take into account human errors, and it is built on a militaristic ideology (Grünwald, Bernthal 1978). It stresses some aspects that are prevalent in the management practices of the public sector but leaves less room for teamwork and dynamics and adaptation to different circumstances.

Management by Objectives (MBO)

MBO is a concept developed in parallel to the Harzburg model in Germany in the USA. It was first proposed by Peter Drucker in 1954 (the latest edition in 2007). The model was a response to the emerging economic environment at that time. After a while, Drucker himself downplayed the significance of MBO by saying: *“MBO is just another tool. It is not the great cure for management inefficiency ... Management by objectives works if you know the objectives: 90% of the time you don't.”*

MBO is an approach to management in which managers and employees jointly set goals (objectives) to achieve during a given time period, and at the end of that time period, they evaluate performance by the extent to which these objectives have been achieved (see [Table 12](#)). Examples of objectives are reaching some quality, sales, or profit targets etc. In MBO, the goals must be SMART (specific, measurable, achievable, realistic and time based), so it means that goal setting also achieves the determination of way(s) to achieve the goal.

Table 12 The MBO Concept

Leading idea:	Improvement of decisions by orientation of decisions and their implementation to goals (that are set jointly by managers and employees)
Management components: Goals:	Goals, sub-goals, goals for positions, routine goals, innovative goals, personal development goals, goal contents, goal operation, goal determination
Management phases:	
Planning:	Strategic, tactical, operative, comprehensive, process planning, staff needs, assignment and development plan
Implementation:	Authority of senior officials, official's responsibility for actions and results, adaptation of organization to changing goals, job

	descriptions, organizational checks,
Audit:	Self-audit, result audit, final audit, audit standards, efficiency check, adaptation of salaries, reformulation of routine, innovation and development goals
Management levels:	Flexible
Management tools:	Qualitative techniques, negotiations on goals, goals descriptions and trees, management cycle, flow charts, staff and co-workers discussions, promotion interviews, talks on goal results, result reports, performance-related pay
Management style:	Bureaucratic: audit, staff evaluation, cooperative: goal identification, incentive system, job rotation and enlargement
Management relations:	Hierarchical goal relations, goal conflicts, weighting of goals, task relations, vertical and horizontal negotiation relations, management cycle bottom up- and down planning, information channels, goals and planning relations, staff planning and development relations, correspondence among goals and organization, relations between goals and audit indicators, control and sanction relations, efficiency and salary relations

There can be different understandings of the MBO concept, as the first one is more authoritarian and the other one is more participative in its nature. In first case the aim is set by the manager, and in the latter one the aim is agreed upon a participative negotiation (one can compare here the MBO in American firms vs socialist economic planning). As Drucker writes (1976: 18) *"Similarly, the Japanese system of 'decision by consensus' is often cited these days as an example for the American decision maker. However, the Japanese do not make decisions by consensus, rather they deliberate by consensus. The seemingly long gestation period of a decision in Japanese organizations is devoted to bringing out the maximum understanding within the organization and to enabling those who are going to have to participate in the subsequent action to express their own views of the issue and their own definitions of the question. Consequently, they find out where their colleagues and associates stand, what they feel, and how they feel. Then a decision can be reached which the organization understands, even though large groups within it do not necessarily agree or would have preferred a different decision. Perhaps the greatest strength of the Japanese process is that priorities can actually be set and be made effective."*

However, McKonkie (1979) finds by reviewing the literature on this subject that typically subordinates are involved during goal setting, because this is generally seen as integrating individual and organizational goals; in addition, if circumstances change, the goals should be sufficiently flexible to enable changes. As described in the table below, the goals are covered with comprehensive planning, implementation and auditing at all management levels and entail different sets of relations. As in the case of the Harzburg model, this concept involves both cooperative and bureaucratic management styles.

MBO might be applied in innovative project-oriented public offices and firms. As MBO is a planning and audit concept, it is not suitable for the public sector in fields where contributions cannot be measured. The concept does not succeed either if it is not supported by top-management. The concept does not fit if the goals are fixed in laws and if the quality of services is fixed as well and can be detected by applying existing rules of administration.

Formally, MBO has been out of fashion since the late 1980s; however, the ideas linking employee goals to company-wide goals benefitting the organisations are ongoing in the frame of the Balanced Scorecard developed Kaplan and Norton in 1992. In our discussion context, this tool of the Balanced

Scorecard can be viewed as a practical way to join individual and organisational goals to a common strategic framework (Kaplan, Norton, 2001).

The **advantages** of this concept lie in its great flexibility, the clarity of the goals, a frequent basis for communication and co-ordination, much information for position evaluation (swot, s.m.a.r.t.), motivation and initiatives (secures output and result orientation; participative decision making enhances job satisfaction, etc.) and the use of income as a monetary incentive.

The **disadvantages** are revealed in case goals and are fixed in laws, and there are many of them: personal goals might influence public goals and many persons involved in decision making can be time consuming, which could impact productivity. In addition, the written goals and their communication, performance evaluation, etc. increase the volume of paperwork. As the priority is set on operational goals, whereby the context in which the goals are set, i.e. impact of a rapidly changing environment, is not taken into account. In larger organisations, as the dependency of work results on other employees, teams, departments, etc., difficulties of equal treatment, conflicts, expensive goal negotiations and audits might arise.

There are many different quasi-market forms in negotiations which show different threat strategies, negotiations and games result. Moreover, bottom-up and top-down management cycles are necessary. The hiring and firing of employees must be legally possible. The MBO concept is in a particular planning and monitoring concept.

Planning Programming Budgeting System (PPBS)

PPBS (Reinermann 1975) is a management concept to provide a better analytical basis for decision making and for putting such decisions into operation. It also has roots in the private sector - according to Nigro and Nigro (1973), it first appeared in General Motors in 1924, but was applied widely in the public sector defence system. According to Greenhouse (1966), the main purpose of the PPBS concept was seen to be the public sector's better accountability to taxpayers.

It is similar to MBO, but it is more long-term and middle-term oriented; however, all the goals and activities are connected to budgets (see also

Table 13).

According to the RAND Corporation (one of the developers of this concept since the 1950s), PPBS is constituted, basically, of five elements:

1. a program structure — a classification of the courses of action open to an organization for attaining its objectives;
2. an approved program document that includes precise, quantitative data on needs, resource inputs, and program outputs extending a number of years into the future;
3. a decision-making process that establishes the functions, rules, and timetables for the actions required by the PPBS;
4. an analysis process for measuring effectiveness and for weighing alternatives; and
5. an information system that supplies the data required to implement the system.

Table 13 The PPBS Concept

Leading idea:	Improvement of decisions by orientation of decisions and their implementation to goals and integration into a budget-planning system.
Management components: Goals:	The development of the goal system is connected to a goal, activity and program planning. The goals are related to top programs, the middle goals to program categories and the sub-goals to program elements and sub-elements.
Management phases:	
Planning:	Strategic (long-term goal plan), tactical (medium-term program and financial plan), operative (budget plan), comprehensive, process planning, staff needs, assignment and development plan
Implementation:	Authority of senior officials, official's responsibility for actions and results, adaptation of organization to changing goals, job descriptions, organizational checks,
Audit:	Self-audit, result audit, final audit, audit standards, efficiency check, adaptation of salaries, reformulation of routine, innovation and development goals
Management levels:	Flexible, but program consistent
Management tools:	Quantitative management tools such as utility analysis, planning techniques are applied to determine the programs, a program structure and a program memorandum. They are the basis of a mid-term production plan and a midterm financial plan. These plans become the basis for the short term activity plan or the short term budget plan. There is a management cycle and much sequential planning showing sequential and information relations
Management style:	Bureaucratic: audit, staff evaluation, cooperative: goal identification, incentive system, job rotation and enlargement
Management relations:	Hierarchical goal relations, goal conflicts, weighting of goals, task relations, vertical and horizontal negotiation relations, management cycle bottom up- and down planning, information channels, goals and planning relations, staff planning and development relations, correspondence among goals and organization, relations between goals and audit indicators, control and sanction relations, efficiency and salary relations

PPBS seems adequate for planning some public offices' activities. The EU budget is integrated into a PPBS. The EU Commission carries out specific programmes, activities and projects. Nearly 95% of the EU budget goes to funding such EU policies and activities according to the priorities agreed by all the Member States. The basis is the European Financial Framework. The direct link between the annual budget and the EU policies is ensured through activity-based budgeting. The activity-based budget nomenclature, allows for clear identification of the policy areas of the EU and the total amount of resources allocated to each of these areas. The 30 policy areas are subdivided into 200 activities of which over 110 include operating budget headings, and are thus reflected in the budget nomenclature as budget chapters. These policy areas are predominantly operational, since their core activities are aimed at benefitting a third-party beneficiary, each within their respective domains of activity. Other policy areas ensure the functioning of the Commission, such as 'Coordination and legal advice', and 'Budget'. The activity structure provides the common conceptual framework for priority setting, planning, budgeting, monitoring and reporting, with the principal aim of enhancing the efficient, economic and effective use of resources. The operational policy areas are listed in the order in which they appear in the budget. The EU has program-oriented activities and an appropriate

budget system. The EU members want to know what they contribute to and what the results of EU activities are.

Problems arise because the government is not organised on a program basis. Ideally, for this concept to work, all offices should consist of programs and all necessary areas should be covered by programs. The advantages (output orientation) and disadvantages (high planning costs, etc.) are the same as in case of MBO. The concept is a much more formalised planning and monitoring system than the MBO. It fits well into an American-type program-oriented public sector.

Zero-Base Budgeting (ZBB)

Zero-base budgeting (Langner 1983) was brought to popular attention by Peter Pyhrr in 1970s (Pyhrr 1973). Pyhrr argues that government agencies have performed many of their budgeting procedures using a historical perspective, and the use of zero-base budgeting does not allow this to happen. The idea is that the administrators must justify from the base of zero all of their departmental or agency budgeted expenditures. Nothing is taken for granted or simply continued at some previous level. Everything must be justified or discontinued through the use of cost-benefit analysis. The idea was applied from the late 1970s by the US Federal Government.

The differences from traditional incremental budgeting are the following - traditionally, the incremental changes different from the previous budgeting period were shown, whereas with ZBB the total amounts of each period and each program has to be presented by compiling the budget. The (positive) incremental cost increases had to be justified traditionally; in ZBB the justification from zero to all programmes for the next fiscal year is needed. Therefore no hints to the previous period can be made (no base case), and every program has to be justified every year (Wetherbe, Montanari 1981).

Table 14 The Zero-Based Budgeting Concept

Leading idea:	Improvement of decisions by orientation of decisions to a test whether activities are necessary at all (zero base) and at what level they should be performed (zero level, old level, higher level, lower level).
Management components: Goals:	Mostly like in PPBS, but considering non-goal achievement, low goal achievement, normal (past) goal achievement, higher goal achievement
Management phases:	
Planning:	Development of decision packages according to the levels for each decision unit, assignment of expenditures to the decision packages, collection of decision packages and ordering them related to preferences there and choosing one of the offered packages by a decision unit, doing the same on the next rank, and ordering and choosing for the total public office
Implementation:	Identity of decision unit and implementation unit, same elements as with PPBS.
Audit:	Result audit, and same checks as with PPBS
Management levels:	According to decision units, hierarchical
Management tools:	Qualitative techniques of goal determination, Quantitative management tools such as utility analysis/cost benefit analysis, planning techniques are applied to determine the program elements and decision packages, and to formulate program structure, techniques to equalize program structure and available fiscal resources

Management style:	Definition of decision units, audit, cooperative: elaboration of decision packages and program elements
Management relations:	Information relations (vertical as well as horizontal among the different activity branches).

ZBB is a management concept of planning and the evaluation of tasks and expenditures. The advantages are similar to MBO (output orientation), as this approach makes programs and financial requirements more flexible given certain funding limits. A severe problem arises with the possible combinations of alternatives and decision packages as their number is increasing heavily as different alternatives can be combined. Moreover, there are long-term activities that are legally bound and for which the working out of the zero-base activity level makes no sense. The concept opens many strategies and negotiation behaviours of the decision units. Other disadvantages involve high planning costs, difficulties to determine minimum levels for decision packages and adaptation of organizations.

Sunset Concept

The Sunset Concept (Friedrich, 1979; Langner, 1983) was devised in the 1970s as a mechanism which could increase accountability through the improved evaluation of programs and agencies by both the executive and legislative branches (Adams, Sherman, 1978). It is similar to the ZBB, but can be defined via the following principles (ibid, p.78):

1. The programs (or agencies) covered by the Sunset law should automatically terminate on a certain date, unless they are recreated.
2. Termination should be periodic (e.g., every six or eight years) to induce the process of re-evaluation.
3. Introduction of the Sunset law should be phased in gradually.
4. Programs and agencies in the same policy area should be reviewed simultaneously.
5. Before sending the programs for consideration, a competent and thorough preliminary analysis must be undertaken.
6. Existing agencies (the executive agencies, General Accounting Office) should perform the preliminary evaluations, but they need the improvement of competences before they can do the job.
7. A system of rotation for evaluating committee members is a prerequisite to have effective oversight.
8. General criteria to guide the review and evaluation process should be established by the Sunset law.
9. Safeguards must be built into the Sunset mechanism to guard against arbitrary termination.
10. Public participation (in the form of public access to information and public hearings) is an essential part of the Sunset process.

It can be argued that the ZBB and Sunset concepts are more adequate for the US as there is a tight connection between the voting process and the administrative activities. Political changes lead to the new orientation of programs and the need to offer positions to those who have financed and supported voting campaigns. Therefore, there is the need to end old programs and to create new public offices in order to have enough new positions. On the federal level one speaks about the Reagan, Carter, Bush and Obama administrations. The whole government office is replaced when a change in government occurs. That is one of the reasons why only a few life-time positions for public officials exist with a negative effect on the knowledge and professionalism of public officials.

Table 15 The Sunset Concept

Leading idea:	Improvement of decisions by parliamentary audit and revision of necessity of laws, programs, and public economic units
Management components: Goals:	Terminated goals for public offices, set goals for programs, goals' operationalization
Management phases:	
Planning:	Only mid-term existence of programs and public offices (6-8 years), restriction to disposable expenditures
Implementation:	Committee of Parliament to audit public offices, rotating participation of parliament members in the committee, rules for decision of closing down, resettlement, extension, new establishment of public offices, possibilities to move officials
Audit:	Supervision and audit plan with participation of the respective public offices, studies and reports, criteria of audit and evaluation, result audit, need for continuation of program, final report, decision of parliament of continuation of law, tasks and public office
Management levels:	Top level procedure of establishing and termination of programs, Middle and Low management participation in audit
Management tools:	Qualitative: interpretation of laws, work plans, hearings, reporting, goal finding; quantitative: benefit cost analysis, cost effectiveness analysis, utility analysis
Management style:	Paternalistic: process of ending of tasks, laws and public offices, audit competences, cooperative: right of public office to discuss the supervision and evaluation criteria, codetermination in work plan procedure, inclusion in audit
Management relations:	Hierarchical relations from Parliament to public office, relations between different audits, horizontal relations between parliament and committee, information relations to elaborate pre-studies and reports, sequential relations concerning laws ,programs and audit, relations concerning closing down of public offices with respect to task and staff, audit relations, relation between audit results and existence decision, incentives, relations between management tools and phase of audit

In times of transformation, people-owned firms and socialist institutions were transformed by special institutions and governments, e.g. in Estonia by using this concept. In Germany 14,000 people owned firms, and socialist cooperatives and party, security and army institutions were closed down, sold or transferred to the democratic government of Federation states, and municipalities. All these institutions were audited, and decisions were made about their future existence or closure. Moreover, property of these institutions was restituted, sold or transferred to jurisdictions, e.g. land, forests. Mainly this was the task of the Treuhandanstalt embedded in the centre of a large Sunset concept. The concept is an auditing concept.

Advantages: more power for parliament, better opportunities to monitor public offices, success pressure, sanctions, reduction of administrative activities, permanent functional reform, improvement of laws, improved budgeting.

Disadvantages involve few closures, log-rolling in favour of public offices, political packages, high resistance of public offices, less continuity, permanent tasks, an inter-administrative network, a cycle of tasks, an existing administrative system and the lobbying policy of public offices and networking against closure. In addition, constitutional and public law do not fit, many tasks are permanent and

should not be questioned, and Parliament has difficulties in overlooking the links between public offices. The concept is more adequate for a program-oriented administrative structure with a close relationship to the political process. Many times, the closure of offices makes no sense; they might change their tasks for survival, but in reality they try to perform similar tasks as they did before.

XYZ Concept

In management theory, you can view the roles of the management and employees in many different ways. Theory X assumes that workers hate work and believes that you have to exert a lot of direct control over the workforce or they'll never get anything done. Theory Y is different in that it assumes workers are creative or inspired and would be happy to do work of their own accord if left to their own devices. Management shares decisions with the group, and feedback is generally welcome. Theory Z is sort of a hybrid of X and Y. While less participative than Y, it has a much higher regard for the needs of the employees than X. It also assumes that the workforce is happy to do their jobs provided the management is going to support them and look out of their needs (see also [Table 16](#)).

Table 16 Comparison of X, Y and Z Management Theories

Management Theory	Douglas McGregor (Theory X & Y)	William Ouchi (Theory Z)
Motivation	Tends to categorise people as one type or another: either being unwilling or unmotivated to work, or being self-motivated towards work. Threats and disciplinary action are thought to be used more effectively in this situation, although monetary rewards can also be a prime motivator to make Theory X workers produce more.	Believes that people are innately self-motivated to not only do their work, but also are loyal towards the company, and want to make the company succeed.
Leadership	Theory X leaders would be more authoritarian, while Theory Y leaders would be more participative. But in both cases it seems that the managers would still retain a great deal of control.	Theory Z managers would have to have a great deal of trust that their workers could make sound decisions. Therefore, this type of leader is more likely to act as "coach", and let the workers make most of the decisions.
Power & Authority	As mentioned above, McGregor's managers, in both cases, would seem to keep most of the power and authority. In the case of Theory Y, the manager would take suggestions from workers, but would keep the power to implement the decision.	The manager's ability to exercise power and authority comes from the worker's trusting management to take care of them and allow them to do their jobs. The workers have a great deal of input and weight in the decision-making process.
Conflict	This type of manager might be more likely to exercise a great deal of "Power" based conflict resolution style, especially with the Theory X workers. Theory Y workers might be given the opportunity to exert "Negotiating" strategies to solve their own differences.	Conflict in the Theory Z arena would involve a great deal of discussion, collaboration, and negotiation. The workers would be the ones solving the conflicts, while the managers would play more of a "third party arbitrator" role.
Performance Appraisals	Appraisals occur on a regular basis. Promotions also occur on a regular basis.	Theory Z emphasises more frequent performance appraisals, but slower promotions.

Source: <http://petervenn.tripod.com/brochure/complete/xyz.htm>

It does not fit to the American political and social culture of short-term efficiency and consumption maximization without being aware of the struggle of society for survival

Table 17 The XYZ Concept

Leading idea:	Improvement of decisions by their orientation to long term survival of an institution.
Management components: Goals:	long term goals, sub-goals to achieve long term goals, middle and short term goals to penetrate strategic sectors, goals as means for a common orientation
Management phases:	
Planning:	Development of long term planning, procedure to integrate all decision makers, development planning in teams, strategic and short term plans to fasten infrastructure and competitive positions, staff development planning
Implementation:	Team organization, priority to unanimous decision making, life time employment, behaviour as followers to top managers, stable organization
Audit:	result audit, and behaviour check
Management levels:	Top management creates suggestions for long term ideas, Top level have to execute plans, middle and low level management are involved in planning, but have to follow
Management tools:	qualitative, goals finding, elaboration of strategies, moral suasion, quantitative: group oriented payment schemes, guarantee of minimum levels
Management style:	Paternalistic in ideas and execution, audit, cooperative: development of goals, strategies, decision participation in teams, explanation of measures to employees, responsibilities
Management relations:	Social relations within a group, leadership and responsibility relation within the group, information relations, incentive relations, hierarchy and split of competences within the group, social incentive relation

Advantages: stability, overcome crises more easily overcome, incentives to avoid conflicts, long-term staff development, important for many public offices that provide infrastructure, access capacities, long term services, cost savings by less selfish behaviour and a feeling of responsibility for the well-being of the public office. Disadvantages: less flexibility, not adequate for varying short-term tasks, fewer opportunities to adapt staff or tenure staff to use short-term cost savings, no minimization of costs, no easy adaptations of changes in voting and political process. The concept is to achieve long-term success and the survival of an economic unit.

New Public Management

Since the late 1970s a common view of administrative management has emerged worldwide that has come to be termed internationally “new public management” (NPM). It has to be noted here that, according to the Pollitt and Bouckaert (2011), this view dominated until the late 1990s. Since then the mix of different concepts is discussed, and NPM-type reforms are conducted in different countries; however, there is no clear dominance of NPM as a management concept in this century. The concept of NPM is generally held to be characterised by the following key attributes:

- increased market-orientation and focus on competitiveness;
- corporate management concepts adopted from the private sector;
- separation of strategic (political) and operational (administrative) responsibility;
- ideas derived from management by objectives and by outcomes, and

- decentralised, semi-autonomous structures.

In NPM-orientated concepts two complementary perspectives on reforms are pursued (Budäus 1994, Naschold 1993, Schedler, Proeller 2002):

The external perspective:

- a new profile of tasks and duties,
- a new policy on vertical integration of service provision,
- the shift from being a provider of services to the role of “guarantor”,
- increased orientation to markets and to the competitive environment,
- improving the delivery of services to citizens;

The internal perspective:

- fundamental reorganisation of structures and processes,
- decentralisation,
- increased accountability,
- focus on outcomes and results,
- improvements to personnel and financial management, etc.

The NPM had an influence to the overall goal system as the economic aims, the operational aims, the other (sectoral, etc.) aims, but also management aims are influenced. For example, within the economic aims, fiscal aims and profit achievement gain more relevance, cost minimization and also competition aims get more importance. There are more goals to enforce privatization and PPP and to accumulate commercial wealth in the public sector activities. In administrative sectors, when short-run rewards are expected, the primary interests for clients are promoted less. The goals referring to the spheres of public offices or public firms operations are influenced by these changes as well. The NPM also touches the political goals towards greater voter orientation. Public goals get partly substituted by private oriented goals.

Table 18 The NPM Concept

Leading idea:	Improvement of decisions by decision making like in a private firm with respect to goals and methods
Management components: Goals:	Management goals: cost minimization, property maximization, dominance of short term goals, avoidance of access capacities, trying to gain profits in financial transactions, real estate business, leasing etc.
Management phases:	
Planning:	priority of short term planning outsourcing of services, use of private capital and PPP, public office have to guarantee services but not to produce them themselves, using private planning for budget and liquidity, using private parameters of action like marketing, program planning, finance through fees
Implementation:	Use of private organization methods, establishment of many more autonomous offices, offices for cross tasks, matrix organization, flat organization, profit centres, reduction of long term employment, possibilities of closing easily public offices, treatment of service receiver as client, establishment of public firms, introduction of internal markets within public offices and employ them, e.g. use of real estates
Audit:	result control, cost control, efficiency and profit checks
Management levels:	Less strict hierarchy, possibilities to intervene for top management
Management tools:	Qualitative tools: qualitative methods in use in firms, games, methods of ideas development, private and monetary incentive

	schemes, monetary rewards. Quantitative tools: substitution of cameral by commercial accounting, investment accounting directed to profits, application of modern operation research methods, application of firm oriented informatics and computer techniques, more information for citizens, evaluations of property, agreement with recipients of services on individual service conditions.
Management style:	Paternalistic through top management, audit, integrated flow and stock balancing, participative, more orientation towards clients, broader scope of decision making of officials, usage of competition internally and externally in purchase of production factors and service supply, fiscal goals related to such activities
Management relations:	Less hierarchical relations, computerized information relations, computerized relations among public offices and to private economic units, internal and external use of net-work information and information through co-operation, use of modern identification cards to get access to necessary personal data to produce various administrative services

NPM is a concept of commercialisation of public offices. The advantages of NPM as also noted above lie in higher flexibility, more information available, faster service in public sector.

Disadvantages are associated with lower orientation to traditional values of equal treatment, inadequate (social)accounting, less importance of public law, higher dependency on the private sector and less authority, knowledge, resources and management capacities in the public sector. The difficulty in applying NPM in the case of public management lies in the fact that some tasks and goals differ substantially from the goals of private economic units in particular from achieving profit. If the profit goal is dominant, then as the services are many times free of charge (such as libraries, for example), cost minimization becomes an important task. However, public production differs from private production. Many times output qualities are very much linked to administrative procedures such as equal treatment, data protection, execution of laws, etc. The overly large stress on cost minimization can adversely affect the quality of such services. If public goals must be achieved, then these must be measurable, and the relation between service output and goal achievement has to be known. This is sometimes difficult because goal achievement happens often outside the public office, e.g. effects of high-quality school education, and there is no clear cut between the input and output in case the client gets involved in the production throughout the process. There is also an increased risk of corruption because public officials get used to enjoying financial advantages.

Difficulties in defining NPM. In the literature one finds considerable confusion on what is considered new public management. New public management is also a change in existing management in practice. As the existing systems are so different, new management can be each kind of administrative reform. Therefore, new public management is sometimes a synonym for administrative reforms. However, those reforms that have the following common features are considered to be under the category of new public management: an emphasis on decentralization, networking, output orientation, higher flexibility, a different role of the state in the direction of only guaranteeing public services, PPP, privatization and the introduction of different budgeting, commercial accounting, and profit centre identification, etc. NPM has different names in different countries, for example in the USA: Reinventing Government, in Germany: the New Control Model, in Switzerland and in Austria: Impact-oriented public management (Schedler, Proeller 2002).

However, different countries have adopted these reforms very differently. Although these were popular in the US and Germany, the NPM-type reforms mainly took place at the subnational government level. The federal government has never adopted NPM on a large scale; in the UK and Belgium, the NPM has not been widely used, etc. (Pollitt, Bouckaert 2011). The reasons are also related to different contexts, e.g. legal regulations where public management has evolved in different countries.

NPM in the USA: Reinventing the Government

By using the guiding idea of new public management, a reform program of public administration was launched in the USA during the Clinton/Gore reforms. The main idea was that the public offices and public enterprises should (Osborne et al. 1997):

- become more proactive instead of reacting to changes passively,
- promote community spirit through public service instead of concentrating on the service provision alone,
- act more competitively and not within fixed and limited service areas,
- be more task oriented and less regulative,
- concentrate on output orientation and less on input orientation,
- be more client oriented and less bureaucracy oriented,
- be revenue oriented, not only expenditure oriented,
- Undertake precautionary actions instead of damage minimization and the decentralization of decision making.

However, the administrative system in the US is very different from those in the European countries; there is not such a difference between public and private law compared to, for example, continental Europe.

NPM in Germany: New Control Model (*Neues Steuerungsmodell*)

The implementation of NPM should lead to improvements of control and to orient management more towards output of public production. This should be achieved via the introduction of many instruments (knowledge and management tools) that stem from business administration; some of the tools have been developed for increasing profit orientation in the public sector, but in addition, the tasks should be considered as having chances for PPP and privatization.

There should be a new vertical assignments of tasks to government- and administrative-sector levels. Horizontally the performance of different functions would have to be examined to find possibilities for PPP and functional privatization.

Additionally, it was characteristic to Germany that (KGSt 1993, Reichard 1994):

- orientation of the control of public offices to outputs to obtain a product book and a product budget
- planning and process optimization would be developed by means of electronic information systems,
- control was extended over goal agreements and reporting,
- the quality of management would be enhanced by self-evaluation and benchmarking,
- product monitoring by budgeting using product categories, product catalogues,
- financing would rely more on private finance models, but also PPP and sponsoring,
- commercial accounting, cost-assessment schemes and new budgeting would be introduced,
- the greater use of e-government, comprising electronic databases and internet use for cooperation in service production was targeted,
- the aim was to enhance citizen orientation, complaints management, client interviews, call centres and procedures for consultancy,
- improved inter-administrative organization, but also better coordination between levels of the administrative sector of a jurisdiction, etc.,

- improvements in organization within a public office, flat management, project organization and larger departments were targeted,
- reform of the law of public officials, staff management by the use of demand estimations, staff information and new recruitment techniques was launched,
- new insights were developed for staff management as well as new incentives and concepts of staff development, education, allocation and promotion,
- improvement in the development of norms and regulations, assessment of the effects of norms, a check of norms; termination of norms, optimization of norms, reduction of norms, critics of norms and optimization of procedures, simplifications, deregulation, higher speed of procedures were foreseen,
- the changes concerned administrative policy (concepts of modernization, master plans, reports, relations between reforms, consulting, commissions, use of international experience etc.).

NPM in Switzerland and Austria

As in Germany, in Switzerland and Austria more output-oriented management was targeted, but not only the output, but specifically the wider effects or impact of outputs are to be considered. In particular, consider the reforms to the relationships in the federal structure of these countries and the relationships among legislation, executive function (government, administration) and justice.

NPM in Estonia

In the Estonian context, NPM is difficult to analyse for many reasons because “new” seems to mean each management concept that gets introduced in an economy in transition from socialist to social market economy. However, several authors have noted that in Estonia the transition process of the public sector has not been completed yet, and therefore the reform attempts are scattered and not well-coordinated. Estonia can be considered to be closest from CEE countries to the NPM model, which has been made possible by neo-liberalist views of the politico-administrative elite (Drechsler 2004). The pattern of reforms has been influenced by the EU (German and/or French) and Finland; however, as the context is vastly different, it is argued that considering the administrative capacity, NPM has been the wrong way to go (Drechsler: 2004: 393). As discussed by Karo (2011), by using the example of innovation policy governance, this process has fragmented the policy administration capacities, which are not sufficient for coordinating larger-scope programmes such as EU Structural Funds. The historical review of the reforms is presented in Sarapuu (2011).

Task-Oriented Management (TOM)

This approach (Eichhorn, Friedrich 1976) has been motivated by the fact that the public sector comprises a variety of different tasks, and therefore also it is very difficult to comprise a specific management concept for the public sector. Therefore the approach of task orientation would imply that the management concept applied should regard the goals and the task of the particular public sector unit we are discussing. This approach, although similar, is in contrast to MBO because in TOM the accountability focus is more on activities and not only on results. There are different forms of TOM. One is a management concept related to tasks where management decisions do not vary much and get repeated. It may be called a monistic management system. Another extreme is associated with tasks where management decisions vary considerably, which is called pluralistic management. Between the two, many mixed forms exist.

Table 19 The TOM Concept

	Monistic management	Pluralistic management
Leading idea	Improvement of decisions by orientation to monistic tasks	Improvement of decisions by orientation to monistic tasks
Management components: Component goals	Given goals, identification of operational goals	Determination of internal goals and goal coordination; specification of top, middle, sub-goals; development of strategic, tactic and operational tasks; possibility of participation of officials in goal planning
Management phases: Planning:	Only short-term measure planning; planning of sectors and spheres in order to perform measures; down-bottom planning	Long-term, middle-term goal and task planning; down-bottom and bottom-up planning; sector, spheres, resource and product planning
Implementation:	Analysis of tasks and synthesis of tasks; choice of public law form; partly split tasks, competences and responsibility; formation of instances; line organization, one-time process analysis and synthesis; invariant general information and production rules; employment of specialists for single tasks	Analysis of tasks and synthesis of tasks; choice of appropriate law form that allows a larger scope of decision making for managers; unity of tasks, competences and responsibility; three instances but several organisation forms, e.g. matrix organization; many times varying process analysis and synthesis; varying production and information rules; employment of more generalists
Audit:	Output; financial checks; audit of legal performance; internal and external checks; auditing and management cycle; reporting to higher instances	Determination of the kind of auditing (output, success, input, financial); internal and external fixing of auditing standards; auditing and management cycle; variance analysis with respect to plan fulfilment and goal achievement; reorganisation of salaries, of employment and advancement of officials
Management levels: Top management:	Transmits given goals to short-time goals and measures; approves short-term plans and process organisation; does top auditing	Formulates strategic goals, long-term goals and plans; approves middle and short-term plans; formulates rules and is auditing
Middle management:		Determines strategic goals and middle-term plans, programs and projects; determines process organization and does auditing
Low management:	Implements measures and does lower level checks	Implements measures and does lower checks
Management tools:	Qualitative tools; semantic interpretations of laws, goals and rules Quantitative tools: budgeting for short-term financial plans, Quantitative tools: cameral accounting, sometimes investment accounting	Qualitative tools: scenario writing, Brainstorming, Delphi method, diagram-techniques, Indicator formulation Quantitative tools: investment accounting, commercial and cameral accounting, work place evaluations

Management styles:	Bureaucratic: assignment of tasks; monocratic leadership; through governance; information line, auditing; advancement system, tenure of officials; equal treatment of staff; job cones; sanctions Participative: cooperation of officials in task performance	Bureaucratic: assignment of tasks to public officials; auditing; staff evaluation by higher rank officials; sanctions Participative: participation in planning; no through governing; cooperative decision making; education programs; monetary incentives; flexible job cones; middle-term employment contract; more seldom tenure
Management relationships:	Hierarchical relationship to staff; internal and external hierarchical relationships (to private economic units); information relationship among instances and officials; organizational line; relationship between plan and measures; factor and production relationships, between plan, implementation, auditing; relationships with respect to management tools	Goal relationships; goal conflicts, planning relationships; hierarchical relationships long-, middle-, and short-term goals; relationships to employment time; participative relations between officials and management levels; relationships between planning, realization, and auditing; relationships between administrative results and incomes, advancement and other incentives

The advantages of the monistic management concept are related to stable service, cheap and lawful administration with respect to public goals, equal treatment, low corruption, existing capacities and staff reserves. The pluralistic management has similar advantages to MBO because the tasks are adequate. The disadvantages of MBO are therefore less pronounced here.

The **disadvantages** are related to the low flexibility, loss of commercial opportunities, the fact that recipients of services are not seen as clients, the possible resistance to applying the latest techniques of information and computer applications.

Management by task in its bureaucratic form is applicable where tasks are not related to many goal changes.

Public Governance Concept

Governance is a catchword that is used in both private and public management in different contexts:

- (1) Global Governance is typically used to identify ways to solve transnational problems (climate, environment) without a "world government" using international and non-governmental institutions;
- (2) European Governance means the improvement of European institutions such as the Commission, the Council of Ministers, Parliament and national governments;
- (3) Good Governance is a key concept of development shaped by the World Bank concerning the order of economics, a juridical framework, institutions and the ethics of decision making and performance;
- (4) Corporate governance deals with the control of firms:
 - (a) Corporate governance concerns all relations between decision makers in an economic unit that are determined by the institutional framework and the prevailing regulation;
 - (b) Corporate governance is concerned with the structures and processes for decision making and accountability and control and behaviour at the top-management of the organisations;

(c) Corporate governance means the provision of efficient control and management of firms.

According to Frederickson (2005:283), the concept is used in public administration literature in the following forms, from which the two latter ones are useful:

- the concept repeats that has already been established in public administration, but in new language;
- the concept analyses the context in which the administrative practices are realized;
- the concept studies inter-jurisdictional relationships and third-party policy implementation;
- the concept studies the influence of power of non-state and non-jurisdictional public collectives.

As far as the economic units are public offices and public enterprises, we also deal with corporate governance in the public sector. The above-provided definitions cannot be very precise because we have to cope here with the control and management of public economic units in very different settings. The reason for the governance problem is related to the vertical competition, which means the split between the owner and management of a firm (or the jurisdiction in the case of municipal firms) and the firm management (or the top management) as political guidance and more operational management. There are principal-agent relations involved, but the situation can be even more complicated as the management at different levels are pursuing different goals (i.e. they have different utility functions). Principal-agent problems can occur at different levels: between citizens and the legislature (parliaments), between the legislature and the executive function (government), between one administrative sector top-level administration (ministry) and middle-level (directory) or low-level administration (operating public office), within court systems, between public owner and public firms, among public trusts, etc. The problem is to develop rules for mutual information exchange to allow different utility functions, scopes of negotiations, etc. in such a way that the aims of the principals are pursued and the activities and participation of agents are secured. The prevailing discussions are enforced by the observed behaviour of managers, their goal and utility orientation, scandals, different levels of information, the fact that transparency is increasing in complexity and international influences (capital markets, service markets, etc.) etc. The discussions are also determined by the changing role of the public sector from a constitutional state, to a planning state, to an economically efficient state (new public management), to a designing state that is active, guaranteeing public services, applying public corporate governance, etc. As in the 1950s clear-cut hierarchies were seen as important. The integration in planning procedures took place in the 1970s; new public management turned to market and private enterprise behaviour. Now a kind of counter movement relying on networks is on the way.

The governance debate with respect to private firms is very much concerned with possibilities of guidance by capital owners and information for capital owners and actors on the capital markets. Public offices and enterprises have to pursue public goals. Therefore social networks should control public sector through involvement in management.

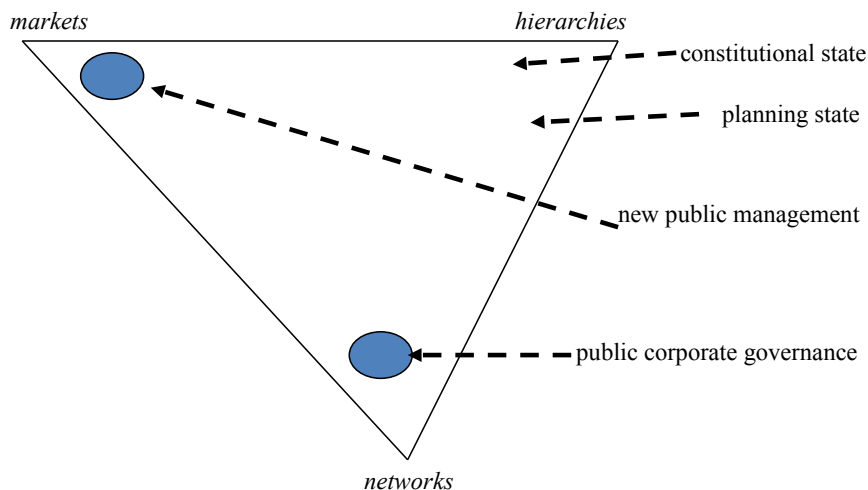


Figure 36 The placement of public governance

Different forms of public governance can be elaborated: **public governance** with respect to public offices and **public corporate governance**, which refers to public firms. There can be also identified governance relationships concerning one administrative branch that is under the responsibility of one jurisdiction, e.g. central state (or federal) police comprising the relations between parliament, government, a ministry, and the relations between a top public office, a jurisdiction, and operating offices as well as relations to existing public safety enterprises. There can also be one administrative branch, but several jurisdictions involved, such as general education in Estonia, where the central government and municipalities possess functions. In Germany, such an administrative mix can also be found between states and their municipalities for schools. Moreover, there are joint programs for transportation, higher education, coast protection and economic promotion where the Federation, and the states plan and perform together. Many times the European Union is involved as well. Another situation occurs if different administrative branches are linked and different jurisdictions get involved.

Because the jurisdictions may act under different legal conditions, there should be different public governance for jurisdictions and the administrative branches.

The network within the core public sector, referring to public offices comprises real deliveries, e.g. administrative services, and a financial (fiscal) network of financial flow.

In developed Western democratic societies there is an extended set of public laws that refer to the coordination of public offices, lawful bureaucratic behaviour and routines, production processes and decision making in public offices.

They refer to general administrative laws. For institutions that relate to parliaments, government, and courts exist constitutional and state laws.

In addition we have many organizational statutes, requirements for organizational acts, law making, etc. with respect to different jurisdictions and administrative branches, to factors of productions (e.g. laws of public staff), special administrative management rules and general rules of decision making. Sometimes there is the need to change this framework, which can be interpreted as an existing kind of overall Public Office Governance by constitutional, fiscal, functional and territorial reforms.

The notion **public corporate governance** (Gesellschaft für öffentliche Wirtschaft 2008; Schedler, Finger 2008; Papenfuß 2013) mostly refers to public enterprises and their managing bodies. The existing approaches or public corporate governance codes refer to the owners and their bodies, parliament, government, ministries, special managing governmental agencies, stakeholders and to bodies of public firms such as a general meeting of shareholders, a board of directors or the supervisory board. They try to offer and recommend rules and best practices for behaviour, organizational frameworks, competences and suggestions about the managing process, including decision making, planning, and implementation and auditing with respect to public task performance by public firms of private or public law. A very comprehensive but more general code is offered by the OECD with OECD Guidelines on Corporate Governance of State-Owned Enterprises (OECD 2005). The municipal Public Corporate Governance Code directs also to the obligations and **management functions of the city** (Zypries 2008.) where there are not many legal provisions by public law. The city has to formulate goals, solve goal conflicts, offer planning safety, and provide conformity of goals between the city and firm management. Therefore, tasks of city bodies, their duties and competences, relations, and procedures have to be fixed by fixing rules concerning standards and implementation procedures (c.f. Stuttgart 2011).

With many forms of company law these necessities are not tackled, especially with **forms of private law**. Public law firms, in particular owner-operated municipal enterprise, provide some rules referring to the rights of the city parliament, the committee on city firms, the mayor and the head of the fiscal department of the city. That is also the case if the city establishes municipal public law institutions or a public law corporation.

Inherent is goal planning, which can be illustrated by a pyramid (**Figure 37**). Networking causes confusion of responsibility. Many involved stakeholders confuse decision making; they achieve their own goals such as trade unions, interest groups, greens etc., which makes secrecy more difficult. Although more transparency should be achieved, it may not result. Firms' flexibility might be hindered.

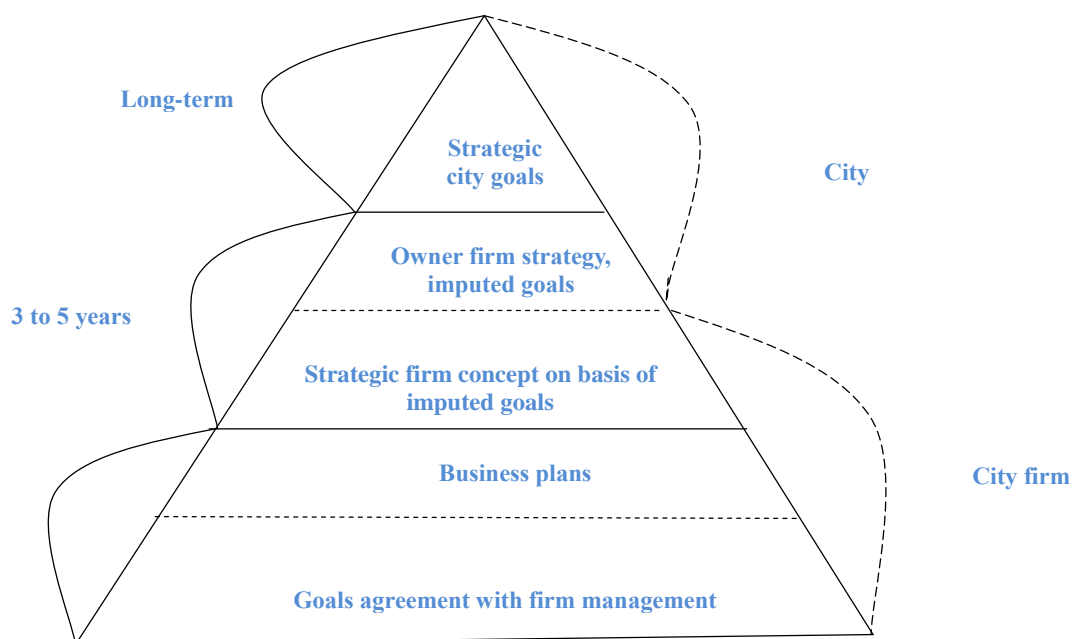


Figure 37 Goal setting according to the governance model

The rights and duties of organs of municipal organisations are mostly fixed in law codes concerning company organisation that cannot be changed by **Municipal Public Corporate Governance Codes**. However, **planning procedures**, some information supply requirements, goal measurement requirements, etc., can be introduced as well as reporting methods, model article and establishment contracts, model management procedures for directory boards and supervisory boards. The Municipal Public Governance code is mostly an **educational device**. Sanctions can be based only on existing private or public law or lawful decisions.

Box 1. Example of Germany: There are about 80 public governance codes for federations, states and cantons, and municipalities in Germany. Some cities have introduced similar public governance codes as the cities and municipalities have many public enterprises, and they need a kind of trust management to control all their public enterprises. All cities have at least a department within the fiscal administration of the city to control the municipal firms, e.g. City of Freiburg has app. 50 public enterprises and employs about 12 persons who mainly deal with the Freiburg firms. Among them are lawyers, so-called Dipl. Kaufleute (masters of business administration), Dipl. Volkswirte (masters of economics) and highly skilled administration specialists. Thirty-six public firms are of private law, four owner-operated public enterprises are of public law and 10 special-purpose associations are of public law. The city has about 220,000 inhabitants. Freiburg municipal firms investments in 2006 added up to 32 million €.

Problems that face the city of Freiburg and other cities:

- Decentralization of the public sector. The single units gained more power through law forms of private law (stock companies), PPP, capital market dependency than the owners, guiding public bodies or jurisdictions they belong too. Especially if the leading institutions possess no strategic planning;
- Rather complicated law structures: There are many forms of private law, public law, or even European law. Public enterprises operate under conditions of private law, e.g. commercial law, competition law, public law (European, federal, state, municipal) and European law.
- The public units serve as shadow budgets in which to bail out the public debts in such a way as to be not identified with the owner.
- Transparency with respect to intergenerational equity
- Transparency with respect to information, stakeholders influence, political deals

Known and applied are the Municipal Public Corporate Governance Codes of Stuttgart (since 2006), Leipzig (since 2006), Berlin (since 2004), Hamburg (since 2005), Bremen (since 2006), Essen (since 2008). Most cities have had guidelines for city enterprises and participation, or a handbook of cities participation policies, for some decades. By states' laws most cities are obliged to deliver a participation report each year. For the public enterprises belonging to the federation (since 2009) this obligation exist as well. For example, the Municipal Public Corporate Governance Codes (of Leipzig) concentrate on:

Part I : Basis - reasons to operate city participation, control of city enterprises by objectives, determination of goals to develop a management policy

Part II: The city as an owner - functions of the city enterprises, tasks of the representatives of the city in the organs of the public enterprises, duties of the city parliament, the committee of the city firms of city parliament, functions of the city administrative department of participation management

Part III: The structure of the city enterprise - the functions, competences and rights of an owners' general meeting, of the supervisory body, of the management council, the relations among the organs, procedures of planning, monitoring, yearly balancing, auditing and yearly final report.

Critics: Difficulties arise for an applicable PCG if the municipal firms are of different forms of law, e.g. Leipzig. They require different forms and rules of owner firm relations. Therefore, some PCG refer only to municipal company Ltd. The number of different enterprises is the following:

Owner operated municipal enterprise	11
Stock - company	9
Company Ltd	112
GmbH & Co. KG	18
Company of civil law	1
Special-purpose association	14
Public foundation	5
Public corporation	3
Cooperative	2
Association of civil law	2
Institution of public law	2
Total Sum	179

Source: Participation reports of the City of Leipzig

Table 20 The Public Governance Concept

Leading idea:	Improve management decisions by networking! To make government more effective and legitimate by including a wider range of social actors in both policymaking and implementation. Some varieties of governance explicitly rest on a 'network approach', and most of them emphasize 'horizontality' over vertical controls
Management components: Goals:	May refer to the policy or organisational goals, and the vertical goal relations between owning jurisdiction and public enterprise.
Management phases:	
Planning:	Organizational missions and objectives (both long and short term) deal sometimes with the organisational structure, administrative processes, managerial judgement, administrative philosophies or a combination of all or some of the above, additional, restrictions for decision making of management
Implementation:	Recruitment and eligibility criteria, programmes, teams, TQM etc.
Audit:	Corporate oversight, transparency, accounting standards, to guarantee that management considers public goals and stakeholders
Management levels:	Loose, low hierarchy, power is diffused and has multiple centres of decision making as many parties can be included, however the public governance code is to avoid unintended management decisions.
Management tools:	Networking, cooperation, teamwork, participation of stakeholders best practices, PPP, agencyfication, contracting-out, and privatisation.
Management style:	Bureaucratic: Management has to stick to law, systems of rules and formulated incentives Participative: Collegial, consensual and consultative leadership characteristics, negotiation, experimentation
Management relations:	Bundles of relations to deal with the complex, hierarchical relations. Relative degree of centralized control, therefore many auditing relations.

Source: Cleveland 1972; Lynn, Heinrich, Hill 2001; Pollitt, Bouckaert 2011; Monks, Minow 2004; Jensen 2000; Blair and MacLaury 1995.

Advantages of using this concept lie in more output, increased operational efficiency, better flexibility, information and transaction costs can be economised by better coordination. However, the coordination and negotiation processes take more time.

Disadvantages lie in larger information and coordination costs in networks as the public units have to elaborate and negotiate their role, activities, etc. In this process some of the important aims might be overlooked.

4.3. Teaching Activities

I Interactive lecture begins with a brief introduction concerning the similarities and differences of public and private management. The students are reading Allison (1982: 16-21) in the classroom and discuss similarities and differences between management in public and private organisations. The

questions will be asked which of these points are useful to know for public managers in practice. Thereafter the introduction of the goal system in public management is presented on Power-Point Slides (first part of the 0), whereby the students are encouraged to bring examples of goals at the different levels (EU-country-region-ministry-office-firm-public manager). The selection from Exercises 1-6 is discussed and the students are encouraged to use appropriate internet sources for finding the answers to the questions. Learning outcome no 3 is of main importance here, but also contributes to other outcomes.

II Seminar: each student takes a specific policy or activity field from the Estonia 2020 strategy <http://valitsus.ee/en/government-office/estonia-2020> and tries to determine specific goals for the Estonian government, a ministry, an office, a municipality and a public firm based on this field. Each goal has to be derived from the document. The students selecting similar fields are grouped and their goal-trees are merged. Thereafter the questions about the definition clarity, logical chains and hierarchies of goals and possible conflicting goals are discussed in the classroom. The seminar work is handed in and graded. Learning outcome no 3 is of main importance here, but also contributes to other outcomes.

III Interactive lecture planning-implementing-auditing cycle (second part of the Sub-Chapter 0) is presented by using Power-Point slides. The example of the EU is discussed by using the

Figure 34. Management cycle of the EU. The students are divided into 7 pairs (or larger groups if there are more students). Each is assigned to study, with the help of the EU Commissions website http://ec.europa.eu/atwork/index_en.htm, the details about the components (ABM, SPP, APS, PDB, CLWP, AMP, AAR according to the

Figure 34) that build up the management concept of the EU. The second half of the seminar is left for each pair (group) to discuss the content and the sources they have found following the website that are useful to analyse the management concept of the EU. This seminar contributes to the general learning outcome no 3, but also enhances the ability to find and analyse the information from the EU electronic sites.

IV Seminar on the management concepts (4.2) is based on the Jigsaw Method (Aronson et al. 1978). The aim of the collaborative study method is to learn about different management concepts and their applicability in the public sector. The preparations for the jigsaw are made in Lecture III, when the students are assigned to jigsaw groups consisting of at least nine students. Each group is appointed the leader. Each student in the group is assigned to study one management concept. The basic literature is given in 4.2 but the students are encouraged to use additional literature sources. The students read the materials beforehand at home and in the seminar the temporary "expert groups" are formed according to the country segments. Students discuss the main points of their segment for preparing the presentations to their jigsaw group. The students are then brought back into their jigsaw groups and concept asked to present respective management concept to the group. The jigsaw groups are asked to fill in the form of Figure 38 Jigsaw group handouts for identifying the weaknesses and strengths of different management concepts for using them in the public sector. The general presentation and discussion follows.

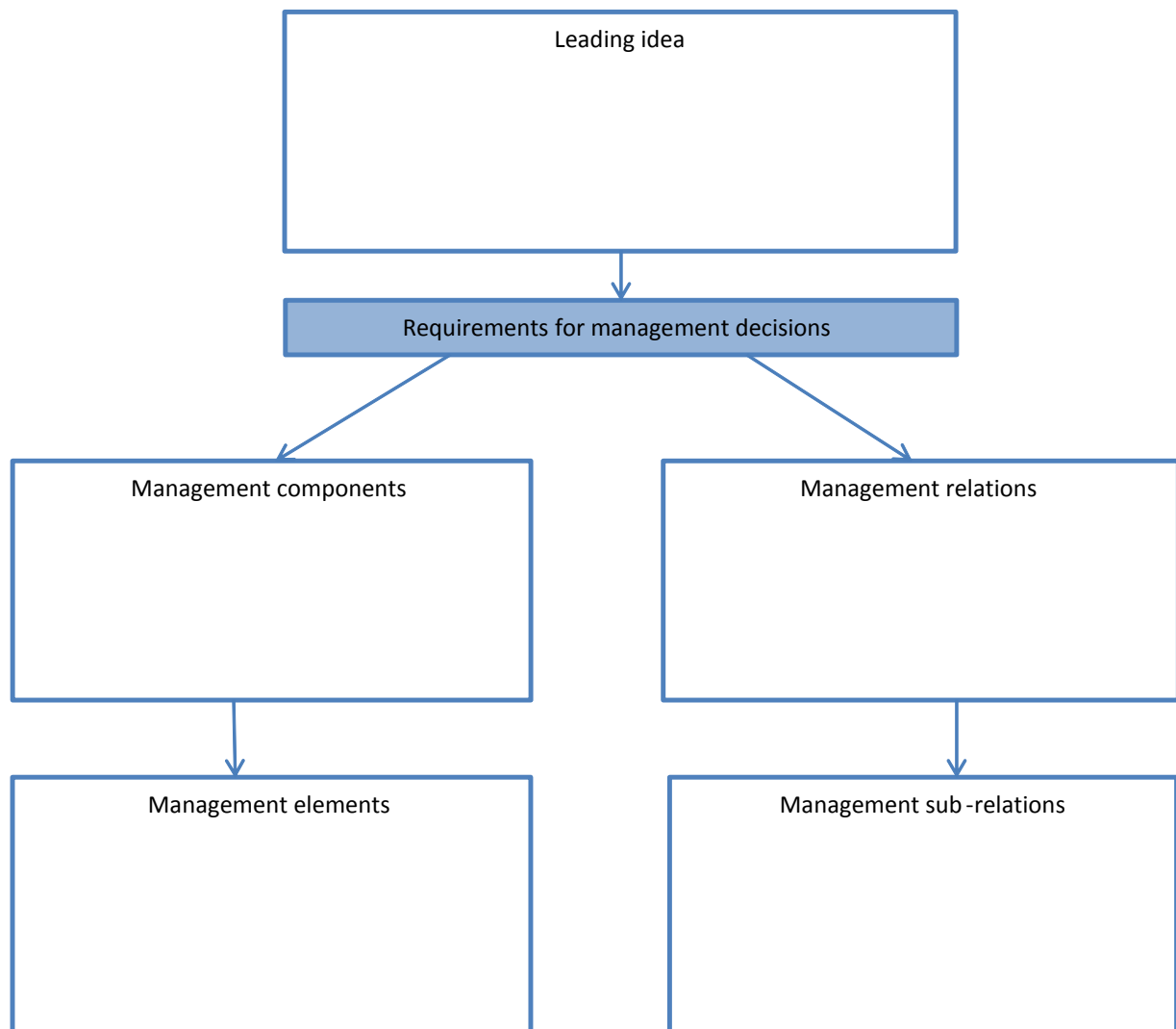


Figure 38 Jigsaw group handouts for identifying the weaknesses and strengths of different management concepts

The seminar helps to understand the importance of the variety of management concepts that are used in public management and their suitability for different purposes in the public sector (contributes to general learning outcomes no 1-3), but also to management and leadership skills (general learning outcome no 1).

V Course project. This is the main practical assignment of the program, which is conducted together with the students of business administration who are taking the course in the field of Organisation Theory and Management. The idea is that the business administration students contribute with their knowledge (organisational design, culture etc.) and public management students contribute concerning the compatibility with public sector aims, cycles etc. Depending on the number of students, 1-3 study groups are formed consisting of students from both courses.

The study objects are public offices or public enterprises; the selection of the case object has to be made beforehand by the instructor and negotiated with the management of that particular office or enterprise. Some specific questions are developed by the instructor and the management that are more focused towards the current issues of the object. For example, the management of the University of Tartu would like to know how to improve their management system.

In the first seminar, the students meet with the representatives of the office/firm and the task is explained; the sub-groups are formed. Each group selects a team leader. Based on the focus, each group has as homework the selection of specific questions or sub-problems to work with (the examples of questions or problems are in Exercises 15-26). Then the groups have a joint meeting where their leaders present the questions and the groups jointly develop a common methodology and study plan with the supervision of the instructor.

For the second seminar, the groups have finalised the study plans and start coordinating the tasks, putting together the list of data sources (including interviewees) and a time schedule. This process is also supervised by the instructor.

The fieldwork of interviews and data collection is foreseen to take no more than 10 academic hours for each student in the group. The instructor will be available during the fieldwork for consultation. All groups write analytic reports (*collective writing*) for their sub-fields and review critically the reports of the others. The writing takes together about 20 hours. The reports and the critics are presented in two seminars. Thereafter a common report is compiled; the compilation is coordinated by the group leaders.

Follows a presentation seminar to the management of the selected office or enterprise, where after the report is amended and handed in for grading. In addition to the quality of the report, individual contributions to the teams are assessed by using the example of Bartlett (2006). Based on assessment the final seminar is held with the individual and general feedback from the instructor. The course project would take about 10 hours seminars and 30 hours of individual work.

There are in total 4 hours lectures and 14 hours seminars foreseen with 60 hours individual work.

Assessment criteria for assessing the achievement of specific learning outcomes are the following (based on Hansen 2012 with authors additions):

1. Assessing, collecting and organising existing knowledge (teaching activities I-V)
2. Displaying the command of existing knowledge (teaching activities I-V),
3. Interpreting existing knowledge (teaching activities I-V),
4. Applying existing knowledge (teaching activities I-V),
5. Interpreting and manipulating quantitative data (teaching activities I-V)
6. Teamwork skills (teaching activities III-V),
7. Leadership and management skills (teaching activities III-V),
8. Communication skills (teaching activities I-V).

The methods of assessment of the knowledge are based on course report of activity V (for assessing the criteria 1-8). The reports are also assessed for content adequacy with respect of the specific learning outcomes as well as style and literacy. The assessment of the criteria 6 is based on team member peer evaluation (as in Bartlett 2006: 42-44), the communication and participation in discussions is evaluated by the instruction of Carlson and Velenchik (2006:73-74). The assessment criteria 7 is evaluated by similar sheet as team member peer evaluation, amended specifically for the team leader.

4.4. Reading List for Students

- Sub-chapters 4.1 and 4.2.
- Allison, G. (1982) Public and Private Management: Are They Fundamentally Alike in All Unimportant Respects, in F.S. Lane, ed., Current Issues in Public Administration, 2nd Edition, New York: St. Martin's Press.

- Grünwald, W., Bernthal, W.F. (1983) Controversy in German Management: The Harzburg Model Experience, *The Academy of Management Review*, Vol. 8, No 2, pp. 233-241
- Sherwood, F.P., Page, W.J. Jr. (1976) MBO and Public Management, *Public Administration Review*, Vol. 36, No 1 (Jan. - Feb., 1976), pp. 5-12.
- Greenhouse, S.M. (1966) The Planning-Programming-Budgeting System: Rationale, Language, and Idea-Relationships, *Public Administration Review*, Vol. 26, No 4 (Dec., 1966), pp. 271-277.
- McGuire, M. (2006) Collaborative Public Management: Assessing What We Know and How We Know It, *Public Administration Review*, 66, 33-43.
- Sarapuu, K. (2011). Post-Communist Development of Administrative Structure in Estonia: From Fragmentation to Segmentation. *Transylvanian Review of Administrative Sciences*, 35(4), 54 - 73.

4.5. Questions for Repetition

Sub-Chapter 4.1

1. Bring out similarities of public and private management! (Allison 16-18)
2. Bring out differences of public and private management! (Allison 18-21)
3. Why are goals an important component of public management?
4. What is public interest?
5. Which goals have public offices and public enterprise to achieve?
6. Differentiate between goals and tasks!
7. What is a programme?
8. What is a welfare function?
9. Describe a Bergson welfare function? What is a Rawls function? What is a socialist welfare function?
10. What says the Pareto-criteria? Why is the Kaldor Hicks compensation test relevant for public managers?
11. What is Benefit-Cost-Analysis?
12. Why is there the need for management to specify public goals?
13. Which types of goals might be distinguished?
14. Which goals can be shown for a public economic unit, public office?
15. Who is influencing the goal setting?
16. What scales are available to measure goals?
17. Why is game theory important to determine goals?
18. What is measurement by one goal? Cost effectiveness analysis, Utility analysis, Benefit-cost-analysis, indicator analysis, balanced score card analysis?
19. How can the goal situation modelled if more goals are relevant?
20. Which management phases exist?
21. Describe a management circle!
22. What planning activities happen in the management phase of planning?
23. What are the main duties of management during the implementation of the planning phase?
24. Which activities are carried out during the auditing of the planning phase?
25. Which are the functions of a budget?
26. State planning problems relevant for public management in business administration oriented public management and in economic public management?
27. Which are the conditions of optimal mix of planning instruments in the planning phase?
28. Why does public management needs planning principles.
29. Which planning activities show the implementation phase?
30. Which are the basis organizational forms in business administration?

31. Which basic organizational forms do you know on the organizational structure of an economy?
32. What happens in implementation of the implementation phase?
33. State implementation problems for one and several public offices?
34. Which are conditions of optimal mix of implementation instruments?
35. Which are problems of implementation for public management?
36. Which planning activities do you expect for the auditing phase?
37. State types of auditing!
38. Which implementation activities are relevant for auditing?
39. Is auditing of auditing necessary?
40. Which are the main auditing problems?
41. Which are the conditions for an optimal mix of auditing instruments in the auditing phase?
42. Which principles of auditing should be applied?
43. How to define levels of management?
44. State examples for top-level positions, for top-level processes, for top-level persons and for top-level public offices!
45. State examples for middle-level positions, for middle-level processes, for middle-level persons and for middle-level public offices!
46. State examples for low-level positions, for low-level processes, for low-level persons and for low-level public offices!
47. For what purposes get management techniques applied?
48. Which qualitative management techniques are important?
49. Write a note on Brainstorming!
50. Which types of accounting exist? Which are in use in public administration?
51. Which investments accountings are you familiar with? Which are the differences between investment accounting in business administration and in economics?
52. What is the weakness of cost-effectiveness analysis?
53. Discuss limits and advantages of Benefit Cost Analysis?
54. In which course were you confronted with decision trees?
55. State examples of mathematical programming for public offices?
56. Why seems application of queuing theory useful management techniques for rescue stations?
57. Which incentives exist?
58. What are public management styles?
59. What are the advantages and disadvantages of a cooperative style?
60. Is the problem of optimal leadership solved?

Sub-Chapter 4.2

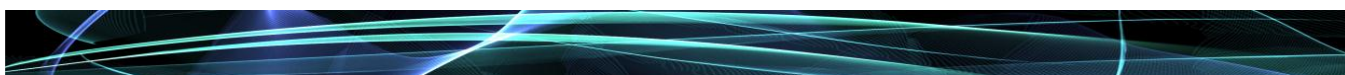
61. Which basic ideas how to improve management decision lead to which public management concepts?
62. What is a Public Management Concept?
63. What are management components and elements, relations and sub-relations?
64. Formulate a list of management concepts and state their respective guiding ideas!
65. Characterize Harzburg model!
66. Which are its limits and chances of application in public sector?
67. Characterize Management by Objectives!
68. Which are its limits and chances of application in public sector?
69. Which are related concepts? What are the main features of Planning Programming Budgeting System?
70. Which are its limits and chances of application in public sector?
71. Characterize Zero Base Budgeting!
72. Which are its limits and chances of application in public sector?
73. Characterize Sunset Concept?
74. How is sunset concept related to transformation economics?

75. Is sunset concept promising?
76. What is XYZ concept?
77. What is the leading idea of new public management?
78. Why it is difficult to define?
79. What are characteristics of New Public Management in USA, Germany, Switzerland and Austria?
80. Bring out specific problems of a case applying new public management in practice (select one from Leicht et al. 2009)
81. Characterize Task Oriented Management!
82. Which are its limits and chances of application in public sector?
83. Define Governance!
84. Describe the example of Germany in governance of public enterprises!

4.6. Exercises

1. What are the public interests where jurisdictions play a role in Estonia?
2. Which goals are fixed in the constitution of the Republic of Estonia?
3. Identify goals of the Government of Estonia with reference to the constitution, organizational laws, and other laws.
4. Try to define the goals of public offices integrated in research promotion in Estonia. Do the same for military public offices.
5. What are the goals of Estonian *raieesti Raudtee Ltd* and *Eesti Liinirongid Ltd*?
6. Which are the goals of the City of Tartu and of the City of Tallinn on bases of development plans and development reports of the cities?
7. Which are important public offices for auditing in Estonia?
8. Does auditing make sense if there are no sanctions against government with respect to critics made in the auditing report of the court of auditors?
9. What difficulties arise when auditing the results of science promotion activities?
10. What is the procedure to formulate a budget draft for the EU?
11. How to achieve a budget draft for the Ministry of Education and Research in Estonia?
12. Try to sketch a feedback model course in public management.
13. Which management styles prevail in relations between a public office and private economic units?
14. Which management style is in use in the Estonian army?
15. Which are the organizational forms practiced in the faculty of economics of the University of Tartu. Which organizational forms are additionally found in the University of Tartu? Does the University of Tartu consist of one or several public offices?
16. Show the management circle of the University of Tartu.
17. Describe the goals of the University of Tartu! Assess critically its Balanced Scorecard instrument!
18. Discuss the indicator analysis of the University of Tartu to measure success of the University of Tartu?
19. Which activities would you assign to the planning of the University of Tartu in the management phase?
20. Which administrative bodies of the University of Tartu and the Faculties are involved in the implementation of the planning phase?
21. Which administrative bodies of the University of Tartu are active in auditing the planning phase?
22. What are the difficulties to define production functions for the implementation in the implementation phase of the University of Tartu?
23. What kinds of monitoring of implementation take place in the University of Tartu?

24. Show which balances and accounts exist in commercial accounting? Which ones uses the University of Tartu?
25. What incentives and why should be applied at University? Are there limits to apply monetary incentives?
26. What kind of management concept is applied in the University of Tartu? Is it suitable for a university?



5. Teaching Public Sector Reforms: Functional and territorial reforms, background of fiscal federalism

Specific learning outcomes of this chapter:

- The student understands and can articulate the nature of the theory of fiscal federalism and its impact on policy formulation and implementation at various levels of government (contributes to general learning outcomes No 2 and 4)
- The student can analyse and justify the need for and consequences of various public sector reforms in Estonia, linking theoretical knowledge with statistical information and statutory limitations (contributes to general learning outcomes No 2, 3 and 4)
- The student is able to critically evaluate the options for the practical implementation of different approaches in Estonia and is familiar with the current practice of policies in the observed area in Estonia (contributes to general learning outcomes No 2 and 3)

5.1. Introduction to Fiscal Federalism

Fiscal federalism deals with the division of revenues and expenditure responsibilities between different levels of government. **Multiple levels of government** are justified if the objectives of efficiency and equity are better achieved by a combination of different levels of government. In general, goods can be classified into four classes depending on how rivalrous and excludable they are. Individual goods are both rivalrous and excludable. **Club goods**⁸ are excludable but non-rivalrous up to some capacity. Common pool problems emerge in the case of goods (or resources) that are rivalrous but non-excludable. Public goods are both non-rivalrous and non-excludable. Decisions about public goods that serve the entire economy (e.g. defence) should be taken at national (central) level. Also decisions concerning local public goods (i.e. public goods that benefit only residents of a defined geographic area) could be made at the national level but there are several arguments in favour of lower-level decisions. First, there is more precise information available on local preferences at the local level, which makes it possible to reach a more efficient decision. Second, if the decision is made at the central level, it is politically difficult to allow any differentiation of provision among communities, although there may be differences in local preferences. If the preferences are not homogeneous across the economy, a uniform provision involves some loss in welfare relative to differentiated provision. Third, the Tiebout hypothesis (1956) argues that in the presence of **heterogeneous preferences**, efficiency requires forming numerous competing communities that offer different levels of public good. Fourth, competition among jurisdictions encourages innovations. Fifth, intergovernmental competition may make government more accountable to the electorate. However, empirical evidence supporting these arguments is limited because the causal relationships are difficult to prove.

The main **advantages** central government has in providing public services relate to economies of scale, uniform quality of services throughout the country and macroeconomic stability. Realising the benefits of decentralisation requires the generation of adequate incentives for local authorities to take into account the needs and preferences of local residents. Political incentives are provided by democratic elections, which ensure that the careers of local politicians depend on whether they

⁸ This chapter is following the public good definition based on utility only. For the sake of the consistency with the literature of public finance that is reviewed here, this definition is also retained here, although this is not corresponding to the general understanding of the goods in this instructional material.

pursue efficient policies. Economic incentives are provided by inter-jurisdictional competition, well-functioning money, land and labour markets and financing local expenditures mainly from municipal revenues. A system in which a substantial part of local revenues comes from own sources provides local authorities with incentives to rationalise spending and search for potential savings, and forces them to bear the political costs of their decisions.

Although preferences concerning income distribution may also differ, the distribution function should be performed largely at the national level as long as there exists mobility of people between jurisdictions. However, since migration is costly in real life, mildly redistributive programmes are feasible at the local level. The stabilisation function must be conducted at the central level. When markets are open and interrelated, local units are ineffective in dealing with problems like inflation or unemployment because of leakages. At the same time supply side policies that relate to local economic development are feasible at the local level.

Decentralisation in the most general sense is defined as the transfer of authority and resources from the central government to sub-national governments. Types of decentralisation include political, administrative and fiscal decentralisation. Depending on the degree of autonomy sub-national governments have, it is possible to distinguish three levels of decentralisation. Under deconcentration sub-national governments do not have decision-making authority. They fulfil tasks according to the instructions given by the central government and are directly controlled by it. Delegation involves a principal-agent relationship: the central government transfers policy responsibility to sub-national governments, not wholly controlled by the central government, but accountable to it. Under devolution the central government transfers policy responsibilities to sub-national governments that raise their own revenues, have the authority to make all the important decisions concerning the provision of services, and are accountable to their constituency not to the central government.

In federal states constitutional and legislative power is divided between federal government and regions, states or provinces. In unitary states the constitutional power is concentrated at the national level. In unitary states decentralisation mainly takes the form of delegation, as the central government dominates over local governments: usually it can unilaterally change the borders of the municipalities and the distribution of functions and revenue sources between levels of government. At the same time, local governments in unitary states may also have constitutional protection and power of general competence, which provide a certain degree of autonomy to them.

There is no uniform, generally accepted measure of decentralisation in practice. The most widely used measure of (fiscal) decentralisation is the share of sub-national expenditures in all public expenditures (or in GDP). The share of sub-national revenues in total public revenues or in GDP is also used. The third (and in some ways a better) measure of decentralisation is the share of sub-national governments in current government consumption expenditures. Generally, decentralisation is growing around the world. Developed countries are more decentralised on average, but intragroup differences are remarkable. Estonia can be considered fairly decentralised in the EU context. The empirical evidence suggests that decentralisation increases with country size, income per capita, and level of democracy, but ethnolinguistic fractionalisation may be associated with both higher and lower levels of decentralisation (Oates 1972; Panizza 1999; Treisman 2002).

In Estonia the constitution, on the one hand, favours the formation of a decentralised government system because local governments have the power of general competence and their existence is constitutionally protected. On the other hand, the constitution does not prescribe explicitly the required level of fiscal autonomy of local governments and makes the dominance of central government over local governments possible. Functions can be assigned to local governments through deconcentration, delegation or devolution in Estonia. According to the constitution, state

obligations can be imposed on local governments only by law or contract, and all costs must be covered from the state budget. All local matters are under the control of local governments, so they can choose which issues, when and how to solve them.

5.2. Allocation of Functions between Levels of Government

Public intervention at the local level is necessary to avoid local market failures: 1) provision of pure local public goods (e.g. street lighting); 2) local natural monopolies (e.g. water provision, central heating); 3) local externalities (e.g. regulation of land use); 4) local merit goods (e.g. public education).

All public goods benefit only residents of a particular **geographic area**. According to allocation theory, public services should be provided by different-sized regions and their costs should be covered by the residents of the same region. Therefore, the fiscal structure of a country should be composed of multiple service units each with a different size. To ensure that decisions are made at the most appropriate level of government, different levels should be created. At the same time, administration costs should be kept under control. Hence, the trade-off between increasing the number of government levels to enable decision-making at the right point and taking advantage of the resource savings from having fewer levels, determines the actual design of the government structure. There is a risk that a democratic choice will involve too much decentralisation (Hindriks, Myles 2006).

Although the **optimal size of a jurisdiction** could be different for each service, in practice the economies of transaction costs and administration lead to grouping of similar services at local (e.g. water and sewerage, local roads, local public transport), regional (e.g. regional roads), national (e.g. highways, defence) or European (e.g. monetary policy) level. In smaller countries only three levels (local, national and European) may exist. In cases of significant spillover effects (e.g. education), there may be some sharing of responsibilities between levels of government.

The **authority of local governments** to decide the categories, quantity and quality of services that they offer to their residents determines the degree of expenditure autonomy of local governments (Dafflon, Madies 2009). In practice, the expenditure autonomy of local governments may be limited in several ways. First, by a high share of conditional grants in local budgets, and secondly, through detailed centrally defined norms and standards for local service delivery. If such standards are too detailed, local fiscal autonomy becomes just an illusion.

To maximise welfare, **the marginal net-welfare from the assignment of functions has to be the same for all government levels**. As we have no welfare function in real life, different criteria and principles are used for determining the allocation of functions between levels of government. These include: 1) governmental criteria (e.g. subsidiarity principle, self-administration and self-provision, political balance among regions, realisation of goals of different government levels, survival of the state); 2) fiscal and institutional criteria (e.g. financial opportunities, technical and administrative suitability, flexibility, localisation and decentralisation); 3) economic criteria (e.g. economies of scale, external effects, public goods, migration costs, distribution and stabilisation effects).

In general, the provision of public services should take place in accordance with the **principle of subsidiarity** – it must occur at the lowest government level possible, where the major benefits and costs of these services remain inside the area of jurisdiction. So the allocation of functions depends on the territorial organization. Heavily diversified local government structure with many very small

local units inhibits functional decentralisation. The actual division of responsibilities between levels of government in addition to economic factors also reflects past practice and historical factors. Therefore, there are remarkable differences in the division of powers in different countries. Irrespective of how the functions are allocated, the expenditure responsibilities of all levels should be stated as clearly as possible to promote accountability and reduce duplication.

A **re-assignment of functions** to existing levels of government or jurisdictions is a functional reform. Functions may be moved to a higher level of government (zoning up) or transferred to a lower level of government (zoning down). Functional reform can also refer to the administrative levels of public offices of one jurisdiction, dealing with the question of how many levels of public offices should exist there (e.g. choice between a three level administrative branch with upper (ministries), middle (directories) and low offices (county offices), and a two level branch applying the ideas of flat management). Functional reforms also have to deal with fixing relations between the offices or jurisdictions involved in operating together to perform a function. With a new assignment of functions due to functional reform, the expenditure structure of jurisdictions changes. This also requires a redistribution of revenues between levels of government.

5.3. Distribution of Revenues between Levels of Government

Assignment of tasks, expenditures and revenues to jurisdictions comprising territorial corporate bodies, personal cooperate bodies and public enterprises may be called **fiscal equalisation** in a broad sense. In a narrow sense fiscal equalisation refers to a distribution of revenues (also called active fiscal equalisation). If we have a distribution of tasks, expenditures and revenues, normally a vertical fiscal equalisation is needed between the levels of government. Connexity principle says that an imputation of a new function or a reallocation of functions from the central government to the municipalities is only allowed if the central government provides the municipalities with the necessary means to perform the function successfully.

According to the concept of **benefit areas** a jurisdiction should provide services for which benefits remain within its boundaries, and for financing these services it should use only such sources that will internalise the costs. A revenue source can be considered as the local government's own revenue if: 1) it is given to municipalities for an undefined period and without any restrictions, 2) the revenue source is related to the local economic base, and 3) local governments have at least some control over this revenue source (e.g. they can set the tax rate, at least within certain limits) (Swianiewicz 2003). The revenue autonomy of local governments is their ability to obtain through their own means the resources needed for providing services to local residents (Dafflon, Madies 2009). If expenditures are financed from own revenues, then local authorities can offer residents only these services for which people are willing to pay, and people can consume only those services for which they have paid. If local spending is funded through transfers from the central government, then local governments incur only a fraction of the political and financial costs of their decisions, they have no incentives to fully exploit their tax base and the provision of local public services may exceed its optimal level. Strong dependence of municipalities on central government transfers also creates a gearing effect (Bailey 1999).

Financing sub-national governments through shared taxes and transfers from central government is justified in the case of deconcentration and delegation. Hence, the amount of municipalities' own revenues should correspond to the amount of expenditures under their direct control. To achieve this, the allocation of resources between levels of government should be based on the principle of subsidiarity: a given revenue source should be assigned to the lowest level of government that can exploit it and for which it is not inappropriate (McLure, Martinez-Vazquez 2000). Municipalities' own

sources should provide sufficient revenues for the richest local governments to be essentially fiscally autonomous. In addition to that, they should guarantee that all local governments will face the full marginal tax price of the spending decisions for which they are responsible. (Bird 2003)

The compliance of public services with the preferences and needs of the local population can best be achieved through cost-recovery charging systems. As the beneficiaries of public services are not clearly identifiable in all cases and charging may also be difficult due to cultural or political causes, municipalities also need to be able to levy local taxes. If local governments finance the provision of public goods with a tax on a mobile tax base (e.g. locally employed capital), public goods are underprovided relative to the efficient level according to the tax competition model because of the “race to the bottom” (Hindriks, Myles 2006). If some of the economic activities in a local government are carried on by non-residents, there is a possibility for tax exporting, i.e. levying of taxes that discriminate against non-residents enabling to lower the tax burden on residents and set too high tax rates (Hindriks, Myles 2006).

In general, the most important criteria that a good local tax should meet are as follows: the revenue potential of the tax should be sufficient; the tax should meet the principles of horizontal and vertical equity; the principle of benefit taxation should be followed as much as possible; the tax base should be relatively immobile, evenly distributed in the geographical sense and well defined in the geographical space; the tax should be visible to voters and the tax burden should be on local residents; the tax yield should not be strongly affected by cyclical variations in the local economy and the elasticity of the tax yield against inflation should also be low. In order to avoid creating an unnecessarily complicated non-transparent tax system with high administration costs, the system of local taxes should not be too fragmented. As stabilisation and distribution functions are mainly in the hands of the central government, the central government needs control over taxes that are suitable for these purposes and assure the necessary funds.

The **administrative capacity** of lower levels should also be taken into account before assigning them taxing powers. Due to efficiency considerations it could be reasonable to define the tax base centrally and also to collect taxes centrally in order to limit administration costs, but then to allow local governments to set the tax rates (at least within the limits set by law) in order to assure their accountability. The right to set local surcharges on central taxes (so-called “*piggybacking*”) ensures revenue autonomy of local governments. The problem is that this kind of tax base overlap may create a negative vertical externality leading to overtaxation, because each government level ignores the negative effect of its own taxation on other levels (Hindriks, Myles 2006). On the other hand, shared taxes cannot be considered as a part of local government’s own revenues, because in that case municipalities have no control over the tax base, tax rates or the distribution of tax revenues between central and local levels.

By analysing the suitability of different types of taxes for levying at the local level, it can be concluded that there is no “ideal” local tax, which would fulfil all the principles of a good local tax given above. One of the best choices is a local (residential) property tax, but property tax revenues are usually not large enough to finance the fulfilment of all local functions. That is why it may be necessary to give local governments access to some broad-based taxes. In administrative and tax export avoidance terms, the best option would be to let local governments set a flat-rate surcharge on a national personal income tax. In addition to local taxes and charges, local governments can also obtain own revenues from their property, from imposing fines, etc.

According to OECD (2006), grants from central government to sub-national governments may be divided into **earmarked** (conditional), and **non-earmarked** (unconditional). An earmarked grant can only be used for a specific purpose whereas a non-earmarked grant can be spent on anything. Both earmarked and non-earmarked grants can be mandatory (legal obligation for the issuer of the grant)

or discretionary (the size and conditions of the grant are decided on an *ad hoc* basis). Earmarked mandatory grants can be matching (complement sub-national contributions) or non-matching (not given complementary to sub-national contributions). If a discretionary grant is given under the condition that the sub-national government has to contribute to the project, it is called a co-funding grant. Non-earmarked mandatory grants can be general purpose or block grants. Both increase revenues of the sub-national governments without changing relative prices, but block grants are given by the grantor for specific purposes. However, since this is not an earmarked grant, the actual use of the grant is not controlled. Non-earmarked grants (as well as revenues from tax-sharing) give sub-national governments partial expenditure autonomy and are considered to be “free” revenues by OECD (2001). Earmarked grants are called tied revenues as they give sub-national governments neither expenditure nor revenue autonomy.

The choice of the **grant type depends on the objective**. Compared to the matching grants, non-earmarked grants give higher welfare at the same cost. Hence, if the objective is to share revenues from central taxes with sub-national governments, tax sharing or non-earmarked (general purpose) grants should be used. Matching grants lower the price of the public good and thereby offset the tendency that local governments underprovide public services generating positive externalities. So, if the objective is to increase the level of provision of a particular local public service, matching grants should be preferred.

If we consider budgetary decisions of sub-national governments receiving a grant, according to models of rational choice the response to a non-earmarked grant should be the same as the response to an equal increase in residents’ income resulting from a grant to individuals or a federal tax cut. But empirical studies show that grants to sub-national governments tend to stick with budgetary use and thus result in higher service levels compared to the case when they are paid directly to individuals increasing their revenues. This is known as the “flypaper effect” (money sticks where it hits).

Intergovernmental grants can be also used to redistribute resources from wealthier jurisdictions to poorer ones or just to support poorer jurisdictions from the central budget. Such transfers are based on equalisation formulas that take into account the fiscal need and capacity of each jurisdiction. Higher grants are given to the jurisdictions with greater fiscal need and lower fiscal capacity. In this case we talk about horizontal fiscal equalisation. If the horizontal fiscal equalization is managed by a higher rank jurisdiction (e.g. central government), this is called vertical fiscal equalisation with horizontal effects.

The ability to obtain independent access to credit markets is also an important component of fiscal autonomy of local governments. The approaches countries have to control subnational borrowing can be divided into four broad categories: 1) sole or primary reliance on market discipline, 2) cooperation by different levels of government in the design and implementation of debt controls, 3) rules-based controls, and 4) administrative controls (Ter-Minassian 1997). In general, fiscal federalism theory suggests that the “golden rule” of balanced budget should be followed by local governments meaning that local current spending should be financed only from current revenues (e.g. taxes, charges, grants), while capital investments should be financed from capital receipts (e.g. revenues from property, borrowing) (Swianiewicz 2003).

5.4. Optimal Size of a Municipality and Territorial Reforms

The principle of benefit regions is directly connected to the concept of **optimal community size**. According to Musgrave and Musgrave (1989), in the case of providing one pure public good to the consumers with identical tastes and incomes, the optimal community size depends on several factors. To reduce costs per capita, the number of inhabitants should be as large as possible leading to a single benefit area. At the same time crowding costs limit the optimal size of the community. The model determines first the optimum size (i.e. number of inhabitants) for a given service level. The number of inhabitants will increase until the additional per capita savings from cost sharing between a larger group exceed the incremental per capita costs of crowding. The second step is to determine the optimal service level for any predetermined group size. The service level selected in the case of a certain group size is determined by the intersection of an individual's demand curve for the service (identical for all inhabitants) with the cost curve showing costs of the service to the group as a whole. In the final step the overall optimal solution (the optimal service level and the optimal group size) is determined by the intersection of two curves showing optimal community sizes at various service levels and optimal service levels at various community sizes respectively. The model can be extended in several ways; for example, allowing for differences in tastes, differences in incomes, congested goods, economies of scale, benefit overlap and arbitration.

The optimal solution may be reached through "voting by feet", although the assumptions of the function of this mechanism are quite unrealistic (Musgrave, Musgrave 1989). In addition, the flows of population between localities may not achieve efficiency because the economy may get trapped in an inefficient equilibrium (Hindriks, Myles 2006). The reason for that is the fact that the movement of people between localities affects both the locality that is left behind and the one the person joins. These linkages may lead to inefficiency. It should also be noted that the optimum size of local jurisdictions is likely to change over time; hence, the optimal size is a dynamic rather than a static concept (Bailey 1999).

If we have an optimally sized population and if the population is equally distributed on a plane, the result is a **Christaller plane** distribution. The optimal communities form a network of hexagons (as an approximation of circles). If we look at the production of some other public service we might get another nesting of hexagons. If a service is delivered to a larger area covering several current hexagons, there is a place for a higher rank of government.

One may also apply the theory of clubs for determining the optimal size of a municipality. The optimal club size is reached if a new club member (inhabitant) adds a marginal utility that is as large as the marginal disutility caused by this inhabitant.

Territorial reforms are closely linked to **functional and fiscal reforms**. Territorial reforms change the number (and type) of jurisdictions. Two or more jurisdictions may join and form a new jurisdiction keeping the outer borders unchanged. The other possibility is to form new jurisdictions with totally new borders. Often the territorial reforms deal with a reduction of the number of municipalities. Often the debate concentrates only on the optimal population size of municipalities from the economic perspective but there are other important factors that have to be considered as well. To promote local democracy and citizen participation the municipalities should not be very large in population size and area, although the negative effect of size on democracy is now less pronounced than decades ago (Swianiewicz 2010). At the same time, large local governments may be less oligarchic than smaller ones and provide even more opportunities for participation (Bailey 1999). Historical factors should be taken into account in connecting jurisdictions. Migration and population developments should be considered. All important fields (e.g. possible city and hinterland problems, future infrastructure development, and assignment of public debts) should be properly negotiated

before implementing a reform. In general it is possible to talk about a trade-off between the system's capacity and the citizens' efficiency, but the trade-off is not similar in different situations and moderate solutions should be preferred (Swianiewicz 2010). Territorial reforms must lead to an integration of regional planning and the autonomy of municipalities in decision-making about their local functions.

According to Swianiewicz (2010), **territorial fragmentation** is quite common in CEE countries. It can be considered a reaction to earlier territorial consolidation by communist governments. For the present it has become apparent that territorial fragmentation is one of the major barriers for decentralisation and effective functioning of local governments. However, territorial consolidation is widely discussed but there is little action. There are several reasons for that. There is definitely inertia in the existing institutions and there are proponents of the *status quo*. Village autonomy may have symbolic, but important value. Usually, some negative side-effects are feared such as decreasing accessibility of local administration, losing identity of local communities, fearing not being represented, conflicts among regions of the new (amalgamated) municipality and so on. However, all these issues might be addressed by the reform. The successful implementation of the territorial reform depends on many factors including the institutional context, the capability of the reform promoters to form advocacy coalitions and the capability of reform opponents to form veto alliances.

Paddison (2004) formulates three propositions for making the system of local government boundary restructuring more just:

- local government restructuring should meaningfully address local preferences and needs,
- local government boundary revision should be a fair, transparent and accessible process,
- boundary reform should not be wholly decided by either central or local political elites, it should be a compromise.

Territorial reforms may be implemented in two stages (Swianiewicz 2010). At first the criteria are adopted that should be fulfilled by each local government unit and bottom-up reorganization of municipalities is allowed and stimulated. Compulsory consolidation is used only when needed. Another way to carry out the two-stage reform is to first oblige local governments to cooperate in various associations or communities to build links and trust. In the second stage compulsory territorial consolidation is implemented.

If the population size of some municipalities is too small to achieve efficiency for some services, there are two alternative solutions besides territorial reform (Bailey 1999). First, economies of scale may be achievable through inter-municipal cooperation for the provision of public services like public transport or waste removal. The cooperation may take place also through creating an inter-municipal enterprise. The negative aspects of this kind of voluntary cooperation include greater difficulties for the citizens in controlling the governments and possible standardisation of services despite heterogeneous preferences. That is why inter-municipal cooperation is better suited to more technical services. Swianiewicz (2010) argues that for several reasons voluntary cooperation is not a very realistic and effective alternative for coping with the negative sides of territorial fragmentation. Second, economies of scale may be achievable by contracting out the supply of services to private firms that are large enough to gain economies of scale (e.g. for maintenance of local roads or refuse collection) (Bailey 1999). The third possibility is to use asymmetric assignment of responsibilities to local governments based on some criteria such as population size, type of municipality (rural or urban), fiscal capacity and so on. (Litvack, Seddon 1999). In this case larger cities for instance may have responsibilities for such services that are otherwise provided by higher rank jurisdictions.

5.5. FOCJ – Functional Overlapping Competing Jurisdictions

Although public choice theory in political economy and neoclassical public finance start from very different assumptions, they converge to a common conclusion that a desirable government structure is that of functional federalism, meaning *“a regime where individuals organize themselves in a pattern of overlapping jurisdictions without explicit ranking, with each jurisdiction responsible for the provision of a specific class of public goods”* (Casella, Frey 1992).

Frey and Eichenberger (1995) argue that due to the free movement of goods, services, labour and capital in the European Union, the economic welfare of citizens has improved considerably and that similar welfare improvements could also be reached in political affairs if the competition between governments at all levels is promoted. To achieve this, competition between current governments must be maintained and the emergence of competitive new jurisdictions (possibly covering regions from different states) should be supported. In their view, the jurisdictions should be formed in accordance with the “geography of problems”. They call these new units FOCJ (FOCUS in singular) in accordance with their major characteristics:

F = functional, i.e. the areas served by these new units depend on the tasks they fulfil;

O = overlapping, i.e. units which fulfil different functions cover different and possibly overlapping geographical areas;

C = competing, i.e. individuals (and communes) are free to choose which units they want to belong to, and they can express their preferences directly via initiatives and referenda;

J = jurisdictions, i.e. these are governmental units that have enforcement power and the right to impose taxes.

Functional. According to Frey and Eichenberger (1995) the main shortcoming of existing political jurisdictions is their multi-functional nature, which impedes the minimization of functional spillovers and maximum exploitation of economies of scale with respect to particular functions. An important part of FOCJ is the endogeneity of the size of the jurisdictions. According to the concept of benefit areas the optimal size of a jurisdiction could be different for each service. Hence, there is a justification for uni-functional or few-functional governmental units. Although this is a central idea of fiscal equivalence, the decision-making in these functional units has not gained much attention. Frey and Eichenberger (1995) find that it is important to explicitly study the political supply process. They consider the incentives created by “voting by feet” insufficient to eliminate rent extraction by governments and emphasise the importance of voting. The theory of clubs (Buchanan 1965) is considered to be similar to FOCJ as club size is also determined endogenously, but club theory differs in that it does not deal with the political processes within the clubs and the clubs are not jurisdictions as are FOCJ. FOCJ can be considered as a bottom-up approach as the jurisdictions should emerge in response to the demand by individuals (or communes). FOCJ may provide in addition to public goods also private goods as actually many governments do in real life.

Overlapping. According to Frey and Eichenberger (1995), FOCJ can overlap in two respects. In the narrow sense jurisdictions providing the same service may geographically intersect (e.g. many school-FOCJ in the same area). In a wider sense, jurisdictions providing different services may overlap. As a result, a commune usually belongs to several FOCJ at the same time. FOCJ need not be physically contiguous. FOCJ is thus separated from a certain geographical area.

Competing. Frey and Eichenberger (1995) argue that two forms of competition induce the managers of FOCJ to follow the preferences of their members: the possibility to exit creates market-like competition and the possibility to vote generates political competition. Furthermore, migration is not the only possibility for exiting. The other option is to stop membership in a particular FOCUS without changing the location. Exit may be total or partial meaning that the individuals or communes may

also participate only in some FOCUS activities. The possibility of a partial exit contributes to the functioning of “voting by feet” through keeping exit costs under control. To promote competition, exit from a FOCUS should be as free as possible, but entry need not be free. The current members of the FOCUS should decide collectively by democratic voting whether to accept a new member and the new member may have to pay to join. To ensure political competition, managers of the FOCJ should be elected directly by citizens and citizens should have the right to initiate referenda on important matters.

Jurisdictions. Frey and Eichenberger (1995) state that “a FOCUS is a democratic governmental unit with authority over its citizens, including the power to raise taxes”. There are two approaches possible. First, membership is defined by the lowest political unit (the commune) and all citizens of the commune automatically become citizens of the FOCJ to which their commune belongs so that an individual can only exit the FOCUS via mobility. Second, individuals choose freely whether they belong to a particular FOCUS, but if they do they are subject to its authority. There may be an obligation to belong to at least one FOCUS and pay the corresponding taxes, meaning that some FOCJ may be non-voluntary. Hence, a minimal set of central regulations may be needed. A FOCUS need not produce the services it offers itself, contracting out to public or private enterprises may be used instead. The efficiency of FOCJ (meaning the fulfilment of citizens’ demands) is entirely ensured by the competitive democratic processes taking place at the level of individuals and communes.

Friedrich and Reiljan (2011) consider four types of FOCJ according to their members:

- FOCJ with citizens as members;
- FOCJ with jurisdictions as members;
- FOCJ with jurisdictions, public and private institutions as members;
- FOCJ with citizens, jurisdictions, public and private institutions as members.

According to Frey and Eichenberger (1995), the main advantage of FOCJ on the demand side is the possibility and incentives to satisfy heterogeneous preferences of individuals. This is promoted by the concentration on only one functional area (people have better ways to assess the performance of a FOCUS as they have more information), smallness of FOCJ (as benefits and costs are geographically limited, FOCJ are usually quite small), and the exit option. On the supply side cost efficiency is promoted by the advantages of specialisation, exploitation of economies of scale, minimization of inter-jurisdictional spillovers, and financing through own taxes. FOCJ are more market-oriented than traditional multi-functional jurisdictions as the need to keep costs under control induces the managers to contract-out whenever the costs can be reduced this way. Thanks to the concentration on a single issue and the possibility to partially exit, FOCJ may help to deal with issues related to fundamentalist sentiments.

Frey and Eichenberger (1995) also discuss some potential weaknesses of the system of FOCJ. Firstly, as each individual belongs to several FOCJ there is a need to participate in numerous elections and referenda so that people get tired of politics and the participation decreases. Frey and Eichenberger (1995) consider this unlikely for several reasons. Secondly, the possible lack of coordination between the large numbers of FOCJ. According to Frey and Eichenberger (1995) coordination between governments need not be beneficial. It may also serve as a cartel to evade or exploit citizens’ wishes. The need for welfare-increasing coordination is reduced under the system of FOCJ as the externalities are minimized. Thirdly, the separation along functions prevents vote trading and limits the expression of different preference intensities. But vote trading does not necessarily lead to a Pareto-superior outcome and minorities with intensive preferences may establish a new FOCJ that takes into account their preferences. Fourthly, there is a fear that redistribution based on solidarity is not possible under this system and FOCJ emerge on the basis of income. As a solution central government may get the power to impose income redistribution or a FOCUS specialising on

interregional redistribution may emerge. In addition to that empirical studies show that mobility of individuals is not so high as to totally prevent redistribution.

According to Frey and Eichenberger (1995), there are two main reasons why the system of FOCJ has not emerged in practice. First, individuals and communes are not allowed to establish this kind of jurisdiction. In the case of spillovers, the normal procedure is to shift the function to a higher level leading to increasing centralisation. Second, the system of FOCJ is not in the interests of higher-level politicians and public officials as it reduces their power. To enable the system of FOCJ, a constitutional decision is needed. There are two countries in which FOCJ actually exist today, although they do not meet all the criteria described above. These are the USA (special districts for fire prevention, recreation and parks, etc.) and Switzerland (communes).

Friedrich and Reiljan (2011) have proposed a system of FOCJ for financing the general education system in Estonia. In their view, school-FOCJ should compete for municipalities as members to organize the provision of school services; in other words, to make investments and operate the schools. Municipalities should be free to establish FOCJ, leave FOCJ and enter a competing one, or operate their schools themselves. The FOCJ should represent their municipal members in the negotiations with the central government on earmarked grants for investments. Part of the operating costs should also be covered by the central state, but the rest of the operating costs should come from member-municipalities.

5.6. European Union in a Multi-Government System

Fiscal equalisation does not take place only inside a country but may occur also **internationally** (i.e. between nations). In the Estonian case, an example of international fiscal equalisation involves contributions to, for example, the World Bank or NATO or to other nations directly in relation to some joint projects (e.g. in environmental policy). As the European Union is much more than just a supranational organization, payments to the EU (i.e. contributions to the EU budget) can be considered (national) vertical fiscal equalisation. According to the Treaty of Lisbon, the EU can be considered a fourth (in Estonian case a third) level of government. The EU has full legal authority over the activities that concern the European Community (EC). For other activities the member states have full legal authority. The EU and its law have evolved gradually since establishing the European Coal and Steel Community by signing the Treaty of Paris in 1951. The EU has three "pillars": 1) the EC founded by the Treaty of Rome in 1957 and amended by other Treaties signed since then; 2) the European Union Common Foreign and Security Policy (CFSP); 3) Police and Juridical Cooperation in Criminal Matters. The second and third pillars were established by the Treaty of Maastricht in 1992. Technically speaking, "EC law" denotes anything to do with the first pillar and "EU law" denotes the law regarding all three pillars. Policy areas of the EU can be classified into three: 1) areas where the EU has exclusive competence (e.g. customs union, monetary policy in the Eurozone); 2) areas of shared competence between the EU and the member states (e.g. internal market, agriculture, trans-European networks); 3) areas where the EU has only supporting competence (e.g. health, culture, education).

The EU budget is a programme budget as the expenditures are structured according to programmes. A programme consists of goal directed activities. The EU budget has also the usual functions of a budget such as fiscal, political, management and parliamentary functions. The EU budget is funded mainly (*approx.* 99%) from the EU's own resources, approximately 1% comes from other sources of revenue (e.g. taxes on EU staff salaries, fines on companies violating competition laws, contributions from non-EU countries). Own resources consist of traditional own resources (customs duties and

sugar levies), own resources from value added tax (VAT), and own resources based on gross national income (GNI). Own resources are not allowed to exceed 1.23% of the EU's GNI. The budget must be balanced, but in practice there is usually a surplus, which is used to reduce member states' contributions for the following year. EU funds flow out to the member states in accordance with the priorities that the EU has identified. Less prosperous member states receive proportionately more than the richer ones and most countries receive more than they pay in to the budget. The largest expenditure area is the preservation and management of natural resources (mainly agriculture), followed by economic social and territorial cohesion. In the third place is competitiveness for growth and jobs. The shares of other areas (administration, global Europe, security and citizenship, compensations) are much lower. The budgeting system involves a management cycle. Three phases, namely programming, execution and reporting, can be distinguished in the budgeting process.

During the recent financial crisis, discussions of the responsibilities of different levels in the EU (i.e. global, EU, national, regional, municipal level) were revived. According to fiscal federalism theory, the allocation function should be decentralised as much as possible (keeping in mind economies of scale and spillovers), but the stabilisation and distribution function should be centralised (i.e. carried out at the highest possible level). The question is – should this mean the EU level? The stabilisation function is currently executed mainly at the national level and the EU budget is clearly too small (*approx.* 1% of EU GNI) to be used for stabilisation purposes. At the same time, monetary policy is centralised in most of the EU and there is growing pressure for the coordination of national fiscal policies (and not only in the Eurozone). In addition to that, special mechanisms were created during the financial crisis to reduce default risk in member states. There is no redistribution between individuals at the EU level as the EU budget is so small. There is some redistribution between member states (or regions) through the cohesion policy financed from the EU budget. The allocation function is decentralised in principle as the subsidiarity principle is applied. Hence, the fiscal federalism theory is only partially applied in the EU.

Von Hagen and Pisani-Ferry (2003) propose four reasons why the reality in the EU differs from the suggestions of the theory. First, there is path-dependency, as integration is an evolving process. Second, so-called political failures have caused the deviation from reaching the first-best equilibrium. Third, there is a need to make integration politically sustainable. Fourth, the theory misses part of the story as the theory suggests non-overlapping areas of competence. In reality there is a search for cooperation methods in areas which are the responsibility of the member states but need joint action.

The main drawback of first generation fiscal federalism theory is that it assumes benevolent decision-makers with full information in their hands. Second generation fiscal federalism theory deals with the problems resulting from utility-maximising decision-makers and imperfect information by combining traditional fiscal federalism theory with political economy, public choice, economics of information, principal-agent theory and so on (Oates 2005).

Hodson (2009) uses a principal-agent approach with ECOFIN as the principal and member states as the agents to analyse the delegation of responsibility for the achievement of budgetary stability and structural reforms. He argues that the problems some member states had in achieving fiscal discipline and structural reforms at the beginning of EMU can be described as the result of shirking by agents, asymmetric information, deficiencies in the framework agreements, tensions within the collective principal and the weakness of actual sanctions. The reforms to the Stability and Growth Pact and Lisbon Strategy made in 2005 can be seen as an attempt to refocus the framework agreements, promote the compatibility of interests between the principal and the agents, and encourage fire-alarm vigilance at the member state level. In order to make the reforms succeed, it is necessary, in his view, to overcome the problem of asymmetric information, implement measures to boost ownership and involve national stakeholders in EU economic surveillance.

The financial crisis showed that the measures for achieving fiscal discipline in the member states were still not sufficient. Hence, there may be a need for more coordination of fiscal policies in the EU. Excessive budget deficits (and consequently excessive public debts) in the member states can be treated as a common pool problem as overly high debt levels lead to higher costs of financing for all member states and may even threaten the survival of the euro. Common pool problems emerge in the case of goods (or resources) that are rivalrous but non-excludable. These kinds of goods tend to be overused in the free market (i.e. the tragedy of the commons).

According to Kirchgässner (2014) fiscal deficits are traditionally seen as a means for smoothing economic developments over business cycles and financing large (infrastructure) projects. Assuming utility-maximising politicians and bureaucrats, political economy points out four explanations for budget deficits and increasing public debts: 1) public debts are used strategically to limit the leeway of future governments; 2) conflicts between coalition partners lead to increasing debt levels; 3) budget is used as a common pool resource (gaining benefits, diffusing costs); and 4) the structure of fiscal institutions influences the debt level (Kirchgässner 2014). Vertical fiscal imbalances, in other words, dependence of sub-national governments on central government grants, may increase deficits and debts. In extreme cases, this may lead to the default of sub-national governments and bail-outs by the central government (Eyraud, Lusinyan 2013). Vertical fiscal imbalances are not remarkable in the relationship between the EU and member states, as the EU budget is very small and the EU does not have the power to tax. However, due to the common currency there is a tendency for the EU and other member states to bail out a defaulting member state. In the case of soft budget constraints when sub-national governments can expect that a higher-level government covers their deficits, they have strong incentives to increase their spending beyond their means (Oates 2005).

There are different options for dealing with the deficit problem such as applying the balanced budget rule or other built-in constraints, or centralising fiscal policy (as in the case of monetary policy in the Eurozone). Hence, there are two main reasons for constraining the fiscal policy of member states by the EU: 1) coordination of stabilisation efforts, 2) reducing the deficit bias of member states. There are different options for imposing constraints on fiscal policy in member states leading to varying levels of member state autonomy. However, in a monetary union, the pressure from financial markets may also strengthen the fiscal discipline of member countries excessively, so that they lose their ability to use fiscal policy for stabilisation (de Grauwe, Ji 2014).

Another important issue in the EU, which is also connected to the previous one, is the question of how to deal with the heterogeneity of preferences in cases where non-cooperation involves high externalities or transaction costs. Enlargement of the EU to 28 member states has undoubtedly increased the possibility of heterogeneity in preferences. One possible solution is to allow flexible integration that can take different forms. Groenendijk (2012) differentiates between four basic types of flexible integration depending on whether the integration takes place within the EU institutional framework or not, and whether it deals with policies that are within the EU policy domain or not: 1) differentiated integration uses EU policy framework and deals with policies within the EU domain; 2) alternative integration deals with policies within the EU domain but uses an alternative framework; 3) odd integration uses EU framework to deal with policies outside the EU domain; 4) new integration uses an alternative framework to deal with policies outside the EU domain. In the case of new and alternative integration, it is also possible to cooperate with third countries in addition to other member states.

According to Groenendijk (2012), the examples of alternative integration include for instance the Schengen cooperation, the Bologna Process and the Nordic cooperation. Potential advantages of alternative integration are as follows: 1) possibility to cover larger part of Europe than the EU; 2) evasion of the constraints imposed by the EU framework in terms of decision-making, legislation,

etc.; and 3) possibility to use alternative integration as leverage to speed up EU integration in some areas, if it is used as a form of *de facto* enhanced cooperation between a subset of EU members. The main disadvantage of this form of flexible integration is high transaction costs. As alternative integration is sometimes seen as a threat to the EU integration, possibilities for flexible integration within the EU framework (i.e. for differentiated integration) have been created.

Groenendijk (2012) states that differentiated integration can take many different forms: there may be differentiation in time only or in time and matter, sub-integration may involve a single issue or a multitude of issues, coalitions may be stable over time or not, etc. As the differences between the forms of differentiated integration are gradual, it is not possible to unambiguously classify the cases occurring in practice. The need for differentiated integration became especially perceptible due to the eastern enlargement. This resulted in provisions regarding “closer cooperation” in the Treaty of Amsterdam in 1997. The content of these provisions were changed and the mechanism was renamed “enhanced cooperation” by the Treaty of Nice and altered to some extent also by the Lisbon Treaty. It is possible to differentiate between substantial, procedural and decision-making or operational provisions in the Treaties. The main advantage of enhanced cooperation is bypassing the constraints of unitary integration that may lead to integration deadlock. However, the mechanism also has possible weaknesses.

5.7. Reading list for students

- Sub-chapters 6.1-6.2, 6.5-6.8, chapter 17 (except sub-chapter 17.5), chapter 18 in Hindriks, J., Myles, G.D. *Intermediate Public Economics*. Cambridge, Massachusetts: The MIT Press, 2006.
- Chapters 27 and 28 in Musgrave, R.A., Musgrave, P.B. *Public Finance in Theory and Practice*. 5th ed. New York: McGraw-Hill Book Company, 1989.
- McLure, C. E., Martinez-Vazquez, J. *The Assignment of Revenues and Expenditures in Intergovernmental Fiscal Relations*. Washington D.C.: World Bank Institute, 2000, 40p.
- OECD. *Intergovernmental transfers and decentralised public spending*. OECD Network on Fiscal Relations Across Levels of Government, Working Paper No 3, 2006.
- Chapter 1 in Swianiewicz, P. (ed.) *Territorial Consolidation Reforms in Europe*. Budapest: Open Society Institute, 2010.
- Frey, B.S., Eichenberger, R. *Competition among Jurisdictions: The Idea of FOCJ*. in Gerken, L. (ed.) *Competition Among Institutions*. London: Macmillan, 1995, pp. 209-229.
- Oates, W. *Toward a Second-Generation Theory of Fiscal Federalism*. – *International Tax and Public Finance*, 2005, Vol. 12, pp. 349-373.
- Groenendijk, N. *Enhanced Cooperation under the Lisbon Treaty*. in Dosenrode, S. (ed.) *The European Union after Lisbon*. Polity, Politics, Policy. England, USA: Ashgate, 2012, pp. 95-110.

5.8. Teaching activities

Interactive lectures I-II on the introduction to fiscal federalism (sub-chapter 5.1). The students are asked to read the following materials beforehand: 1) sub-chapters 6.1–6.2, 6.5–6.8, chapter 17 (except sub-chapters 17.3 and 17.5), sub-chapter 18.3 in Hindriks, Myles (2006); 2) sub-chapters A (only benefit regions), C and D in chapter 27 of Musgrave, Musgrave (1989). The following concepts are explained and discussed with students with the help of Power-Point slides in the interactive lectures: the nature of fiscal federalism; justification of multiple levels of government; the nature of local public goods; division of allocation, stabilisation and distribution function between levels of government; definition, types, levels and measures of decentralisation; advantages and disadvantages of decentralisation. To activate students and to help embed the knowledge, exercises 1, 2, 6, 8 and 9 could be used. There are different options for using these exercises during the lecture. They may be used as individual exercises followed by discussions with a partner or within a small

team and/or within the whole class. Or they may be used for teamwork followed by presentations by the team leaders and general discussion. The choice depends on the preferences of the lecturer and the number of students. The main emphasis of these activities is on understanding and articulating the nature of fiscal federalism theory and its general impact on policy formulation and implementation at various levels of government (contributes to general learning outcomes No 2 and 4).

III Seminar on introduction to fiscal federalism (sub-chapter 5.1). The students are asked to look through review questions 1–14 for the seminar and prepare questions on the matters that remained confusing. It is possible to discuss these things once more in the seminar. In addition to that students have to solve exercises 3, 4, 5, 7 and 10 at home. The solutions are discussed in the seminar. The main emphasis of these activities is on analysing, synthesizing, problem solving and critical thinking (general learning outcome No 3).

IV Interactive lecture on allocation of functions between levels of government (sub-chapter 5.2). The students are asked to read the following materials beforehand: 1) sub-chapter 17.3 in Hindriks, Myles (2006); and 2) sub-chapters I–III in McLure, Martinez-Vazquez (2000). The following concepts are explained and discussed with students with the help of Power-Point slides in the interactive lecture: general need for public intervention at local level; general determination of the fiscal structure of a country; risk of too much decentralisation in a democracy; nature and importance of expenditure economy of local governments; criteria for determining the allocation of functions between the levels of government; the nature and need for functional reforms. To activate students and help embed the knowledge, exercises 11 and 15–18 could be used. The exercises could be used for teamwork followed by presentations by the team leaders and general discussion. The main emphasis of these activities is on understanding and articulating the impact of fiscal federalism theory on the allocation of functions to various levels of government (contributes to general learning outcomes No 2 and 4).

V Seminar on allocation of functions between levels of government (sub-chapter 5.2). The students are asked to look through review questions 15–22 for the seminar and prepare questions on the matters that remained confusing. It is possible to discuss these things once more in the seminar. In addition to that students have to solve exercises 12, 13, 14 and 19 at home. The solutions are discussed in the seminar using teamwork followed by presentations by the team leaders and general discussion. The main emphasis of these activities is on familiarising the students with the current practice of expenditure assignment in Estonia, and analysing and justifying the need for and consequences of functional reforms in Estonia, linking theoretical knowledge with statistical information and statutory limitations (contributes to general learning outcomes No 2, 3 and 4)

VI Interactive lecture on the distribution of revenues between levels of government (sub-chapter 5.3) focusing on local taxes and charges. The students are asked to read the following materials beforehand: 1) sub-chapters 18.1, 18.2 and 18.5 in Hindriks, Myles (2006); 2) sub-chapter IV in McLure, Martinez-Vazquez (2000); 3) sub-chapter D in chapter 28 in Musgrave, Musgrave (1989). The following concepts are explained and discussed with students with the help of Power-Point slides in the interactive lecture: fiscal equalisation; connexity principle; nature and importance of revenue autonomy of local governments; advantages of local charges; criteria for a good local tax. To activate students and to help to embed knowledge, exercises 20–22 and 26 could be used. The exercises 20, 21 and 26 could be used for discussion with a partner or within a team followed by general discussion. Exercise 22 could begin with work in pairs with half the pairs discussing the consequences of source-based taxation of capital income and half the pairs discussing the consequences of residence-based taxation of capital income. After that teams of four could be formed (by merging two pairs who discussed different subjects) to compare the efficiency of cross-border investment in the case of source-based taxation of capital with the residence-based taxation of capital. The

exercise should end with general discussion. The main emphasis of these activities is on understanding and articulating the impact of fiscal federalism theory on the allocation of revenues, especially taxes to various levels of government (contributes to general learning outcomes Nos2 and 4).

VII Seminar on distribution of revenues between levels of government (sub-chapter 5.3) focusing on local taxes. The students are asked to look through review questions 23–37 for the seminar and prepare questions on the matters that remained confusing. It is possible to discuss these things once more in the seminar. In addition to that students have to solve exercises 23, 24 and 25 at home. The solutions are discussed in the seminar. And students have also to solve exercise 27 parts (a) and (b) for one type of tax at home (students are distributed equally between all types of taxes beforehand in the lecture). The discussion of exercise 27 in the seminar is based on the jigsaw method. The aim is to find out which taxes are most suitable for using at the local level and to discuss whether the division of taxing powers between the levels of government in Estonia is in accordance with these principles. In the seminar temporary “expert groups” are formed first according to the types of taxes (seven groups in total). In these groups students can discuss their findings to prepare themselves better for the presentation in their jigsaw groups. After that students are regrouped to the jigsaw groups consisting of seven members (one for each tax type). In these groups each student has to present his or her findings. Then the group has to find answers to exercise 27 parts (c) and (d) together. Finally, all jigsaw groups present their findings and general discussion follows. The main emphasis of these activities is on analysing, synthesizing, problem solving and critical thinking, on familiarising the students with the current practice of tax assignment in Estonia, and on analysing the accordance of tax assignment in Estonia with implications from theory (contributes to general learning outcomes Nos 2, 3 and 4).

VIII Interactive lecture on distribution of revenues between levels of government (sub-chapter 5.3) focusing on intergovernmental grants and local borrowing. The students are asked to read the following materials beforehand: 1) sub-chapter 18.4 in Hindriks, Myles (2006); 2) OECD (2006); and 3) sub-chapter C in chapter 28 in Musgrave, Musgrave (1989). The following concepts are explained and discussed with students with the help of Power-Point slides in the interactive lecture: typology of grants and the choice of the grant type depending on the objective; free and tied revenues of local governments; flypaper effect; horizontal fiscal equalisation; the need for sub-national borrowing and approaches to controlling it; “golden rule” of balanced budget. To activate students and to help to embed the knowledge, exercises 30 and 32 could be used. The exercises could be used for teamwork followed by presentations by the team leaders and general discussion. The main emphasis of these activities is on understanding and articulating the impact of fiscal federalism theory on the use of intergovernmental grants and local borrowing (contributes to general learning outcomes Nos2 and 4).

IX Seminar on distribution of revenues between levels of government (sub-chapter 5.3). The students are asked to look through review questions 38–48 for the seminar and prepare questions on the matters that remained confusing. It is possible to discuss these things once more in the seminar. In addition to that students have to solve exercises 28, 29 and 31 at home. The solutions are discussed in the seminar. The main emphasis of these activities is on analysing, synthesizing, problem solving and critical thinking, on familiarising the students with the current practice of revenue and expenditure assignment in Estonia, and analysing the opportunities for improving the situation of local governments in Estonia, linking for that theoretical knowledge with statistical information and statutory limitations (contributes to general learning outcomes nos 2, 3 and 4).

X Interactive lecture on optimal size of a municipality and territorial reforms (sub-chapter 5.4). The students are asked to read the following materials beforehand: 1) sub-chapter A in chapter 27 in Musgrave, Musgrave (1989); 2) chapter 1 in Swianiewicz (2010). The following concepts are

explained and discussed with students with the help of Power-Point slides in the interactive lecture: optimal community size; Christaller distribution; the notion of a territorial reform and the factors to be considered in making a reform; trade-off between system's capacity and citizens' efficiency; reasons for and problems caused by territorial fragmentation; barriers to territorial consolidation and ways for reducing them; alternatives to territorial reforms. To activate students and to help to embed knowledge, exercises 33–36 could be used. The exercises could be used for teamwork followed by presentations by the team leaders and general discussion. The main emphasis of these activities is on understanding and articulating the impact of fiscal federalism theory on finding an optimal size of a community (contributes to general learning outcomes Nos 2 and 4).

XI Seminar on local government reforms (sub-chapters 5.2–5.4). The students are asked to look through review questions 49–63 for the seminar and prepare questions on the matters that remain confusing. It is possible to discuss these things once more in the seminar. In addition to that students have to solve exercise 37 at home. The solutions are discussed in the seminar. For discussing exercise 38 in the seminar, teams with nine members have to be formed beforehand in the lecture. In every team one member is elected to be a leader. The other eight members are divided into pairs. Each pair has to prepare a policy brief about one of the reform proposals described in exercise 38 parts (a)–(d) answering all the sub-questions (in every group these four reform proposals are divided between the pairs beforehand). In addition to that each pair has to answer part (e) in exercise 38. All pairs have to send their policy briefs to their team leader the day before the seminar. The task of the team leaders is to examine the policy briefs prior to the seminar. In the seminar the jigsaw method is used to discuss exercise 38. First, temporary “expert groups” are formed according to the reform proposals (four groups in total). In these groups students can discuss their findings to prepare themselves better for the presentation in their jigsaw groups. After that students are regrouped to the jigsaw groups formed beforehand in the lecture (consisting of a team leader and four pairs of “experts”). In these groups each pair has to present its findings. Then the group has to find answer to exercise 38 part (f) together, considering also answers by the pairs of experts to part (e). The obligations of the team leader are to lead the discussion, to reconcile the “parties”, to try to reach a common position, and to present that common position to the whole class. The presentations of the team leaders are followed by the general discussion. The main emphasis of these activities is on analysing and justifying the need for, and consequences of various public sector reforms in Estonia, linking for that theoretical knowledge with statistical information and statutory limitations (contributes to general learning outcomes Nos 2, 3 and 4), and in case of the team leaders on leading and managing groups (contributes to general learning outcome No 1).

XII Interactive lecture on Functional Overlapping Competing Jurisdictions (FOCJ) (sub-chapter 5.5). The students are asked to read the following material beforehand: Frey, Eichenberger (1995). The following concepts are explained and discussed with students with the help of Power-Point slides in the interactive lecture: functional federalism; the nature, types, advantages and weaknesses of FOCJ; reasons why the system of FOCJ has not emerged in practice; the examples of FOCJ-like systems from the world. To activate students and to help to embed knowledge, exercises 39 and 40 could be used. The exercises could be used for teamwork followed by presentations by the team leaders and general discussion. The main emphasis of these activities is on understanding and articulating the impact of fiscal federalism theory on emerging of the system of FOCJ (contributes to general learning outcomes Nos 2 and 4).

XIII Seminar on Functional Overlapping Competing Jurisdictions (FOCJ) (sub-chapter 5.5). The students are asked to look through review questions 64–78 for the seminar and prepare questions on the matters that remained confusing. It is possible to discuss these things once more in the seminar. In addition to that students have to solve exercise 42 in teams of three persons formed beforehand. 1–2 teams (depending on the total number of students) have to solve exercise 41 instead. In the seminar all groups have to make a presentation and this is followed by general discussion. The main

emphasis of these activities is on familiarising the students with the current practice of organizing and financing different services in Estonia and on critically evaluating the possibilities for practical implementation of the system of FOCJ in Estonia (contributes to general learning outcomes Nos 2 and 3).

XIV-XV Interactive lectures on European Union in a multi-government system (sub-chapter 5.6). The students are asked to read the following materials beforehand: 1) Oates (2005) for the first part of the lecture, and 2) Groenendijk (2012) for the second part of the lecture. The following concepts are explained and discussed with students with the help of Power-Point slides in the interactive lecture: fiscal equalisation; development of the EU treaties; the three-pillar structure of the EU; competences of the EU in different areas; the nature, revenues, expenditures and budgeting process of the EU budget; the accordance of allocation of functions with the fiscal federalism theory in the EU and the reasons for misalignment; differences between the first and second generation fiscal federalism theory; the nature of principal-agent approach and its utilisation in studying the EU; excessive budget deficits as a common pool problem in the EU; traditional and political economy explanations of fiscal deficits; problems caused by soft budget constraints; possibilities for dealing with the deficit problem; nature, types and utilisation of flexible integration. To activate students and to help to embed knowledge, exercises 43–47 could be used. The exercises could be used for teamwork followed by presentations by the team leaders and general discussion. The main emphasis of these activities is on understanding and articulating the impact of fiscal federalism theory on the operation of the EU as a highest level of government (contributes to general learning outcomes Nos 2 and 4).

XVI Seminar on European Union in a multi-government system (sub-chapter 5.6). The students are asked to look through review questions 79–101 for the seminar and prepare questions on the matters that remained confusing. It is possible to discuss these things once more in the seminar. In addition to that students have to solve exercise 48 individually at home. In the seminar teams of 5–6 people have to be formed to solve exercise 49. After the teams have prepared their mind-maps, each team has to present its work and then general discussion follows. The main emphasis of these activities is on critically evaluating the possibilities for practical implementation of different approaches suggested by the theories in the area of fiscal policy centralisation in the EU and on familiarising the students with the current practice of coordinating fiscal policies of member states in the EU (contributes to general learning outcomes Nos 2 and 3).

There are in total 18 hours of lectures and 14 hours of seminars foreseen with 70 hours of individual work.

Assessment criteria for assessing the achievement of specific learning outcomes are the following (based on Hansen 2012 with authors additions):

1. Assessing, collecting and organising existing knowledge (teaching activities I-XVI)
2. Displaying the command of existing knowledge (teaching activities I-XVI),
3. Interpreting existing knowledge (teaching activities I-XVI),
4. Applying existing knowledge (teaching activities I-XVI),
5. Interpreting and manipulating quantitative data (teaching activities I-XVI)
6. Teamwork skills (teaching activities IV-XVI),
7. Leadership and management skills (teaching activities IV-XVI),
8. Communication skills (teaching activities I-XVI).

The methods of assessment of the knowledge are based solving exercises (activities I-XVI) The assessment of the criteria 6 (in activities IV-XVI) is based on team member peer evaluation (as in Bartlett 2006: 42-44), the communication and participation in discussions is evaluated by the instruction of Carlson and Velenchik (2006:73-74). The assessment criteria 7 is evaluated by similar sheet as team member peer evaluation, amended specifically for the team leader.

5.9. Questions for repetition

Sub-chapter 5.1.

1. Define fiscal federalism.
2. What is the definition of local public goods?
3. What are the main advantages and disadvantages of decentralisation?
4. What is the main conclusion of Tiebout hypothesis?
5. Which level of government should be responsible for the distribution function? Explain.
6. Which level of government should be responsible for the stabilisation function? Explain.
7. Define decentralisation.
8. Name the three types of decentralisation. Describe them.
9. Name the three levels of decentralisation. Describe them.
10. What is the main difference between federal and unitary countries concerning decentralisation?
11. Define the power of general competence.
12. Which indicators can be used to measure decentralisation?
13. What are the determinants of decentralisation according to empirical studies?
14. What can be said about the level of decentralisation in Estonia?

Sub-chapter 5.2.

15. Name the categories of local market failures and explain their nature.
16. Explain the concept of benefit regions.
17. Show how a democratic choice may lead to too much decentralisation.
18. Define expenditure autonomy of local governments and explain its limits.
19. What is the theoretical criterion for assignment of functions to levels of government? Why is this criterion not applicable in practice?
20. Which criteria are used in practice to allocate functions to levels of government?
21. Define subsidiarity principle.
22. Define functional reform.

Sub-chapter 5.3.

23. Define fiscal equalisation (in a broad and narrow sense).
24. Define vertical fiscal equalisation.
25. Explain how is vertical fiscal equalisation carried on in Estonia.
26. Define connexity principle.
27. Define revenue autonomy of local governments.
28. What criteria should be fulfilled to call a revenue source a local governments' own revenue?
29. Discuss the advantages of financing municipal expenditures from local governments' own revenues compared to financing through transfers from central government.
30. Define gearing effect. What are the main problems created by it?
31. What are the general principles that should be followed in sharing revenue sources between levels of government?
32. Explain the tax competition model and its implications.
33. What is meant by the „race to the bottom“? Does empirics confirm this?
34. Explain what is meant by tax exporting and what are its consequences.
35. What are the criteria that a good local tax should meet?
36. What is meant by „piggybacking“? What are its advantages and disadvantages?
37. Discuss the advantages and disadvantages of tax sharing.
38. Define and compare earmarked and non-earmarked grants.
39. Define and compare mandatory and discretionary grants.
40. Define and compare matching and non-matching grants.
41. Define co-funding grant.
42. Define and compare general purpose and block grants.

43. Define free revenues and tied revenues of local governments.
44. Define flypaper effect.
45. Explain what is meant by horizontal fiscal equalisation and how it may be carried on.
46. Define vertical fiscal equalisation with horizontal effects.
47. What are the main approaches to controlling sub-national borrowing?
48. Define the “golden rule” of balanced budget. Why is it important?

Sub-chapter 5.4.

49. Which factors determine the optimal community size?
50. Explain the model determining the optimal service level and the optimal group size in three steps.
51. Explain why the flows of population between localities may not achieve efficiency.
52. How is Christaller’s central place theory connected with the model of optimal service areas?
53. How can the theory of clubs used for determining the optimal size of a municipality?
54. Define territorial reform.
55. Which aspects should be considered in planning and implementing territorial reforms?
56. Discuss arguments in favour of territorial consolidation.
57. Discuss arguments against territorial consolidation.
58. Explain what is meant by the trade-off between system’s capacity and citizens’ efficiency.
59. Which factors prevent the implementation of territorial reforms?
60. Discuss the three propositions of Paddison (2004) for making the system of local governments’ boundary restructuring more just.
61. Explain the possibilities for implementing territorial reforms in two stages.
62. Explain, how can territorial reform be replaced by inter-municipal cooperation or contracting out the supply of services to private firms.
63. What does asymmetric decentralisation mean?

Sub-chapter 5.5.

64. Define functional federalism.
65. Define FOCJ. Explain shortly, what is meant by F, O, C, and J.
66. Explain the main disadvantages of multi-functional jurisdictions.
67. Explain the main advantages of uni-functional jurisdictions.
68. In what respects can FOCJ overlap?
69. Explain the two forms of competition that are in place in FOCJ.
70. Describe different possibilities for exiting from FOCJ.
71. Which forms of membership are possible in the case of FOCJ?
72. Why some FOCJ may be non-voluntary?
73. Explain the main advantages of FOCJ on the demand side.
74. Explain the main advantages of FOCJ on the supply side.
75. Discuss the potential weaknesses of the system of FOCJ.
76. Why has the system of FOCJ not emerged in practice?
77. Describe the FOCJ-like units that actually exist today in some countries.
78. Explain the model of school-FOCJ proposed by Friedrich and Reiljan (2011).

Sub-chapter 5.6.

79. Describe different types of fiscal equalisation.
80. Describe briefly the historical development of the EU treaties.
81. Describe the EU’s three-pillar structure.
82. How can policy areas be classified according to the competences of the EU?
83. Characterize the EU budget as a program budget.
84. What are the usual functions of a budget?
85. How is the EU budget financed, how are the revenue sources evolved through decades?

86. What are the expenditure areas of the EU budget, how are these evolved through decades?
87. How is the budget implemented and monitored?
88. How are the stabilisation, distribution and allocation function divided between the EU and the member states? Why is the reality different from the suggestions of the fiscal federalism theory?
89. How does the second generation fiscal federalism theory differ from the first generation fiscal federalism theory?
90. Explain the nature of the principal-agent approach.
91. How can the principal-agent approach be used to analyse the processes going on in the EU?
92. Discuss the treatment of excessive budget deficits of the member states as a common pool problem.
93. What are the traditional justifications for fiscal deficits?
94. What are the reasons for fiscal deficits according to the political economy literature?
95. What are soft budget constraints? What problems may they cause?
96. What are the main justifications for constraining the fiscal policy of member states by the EU? What are the possibilities for that?
97. How can the free market strengthen the fiscal policy of member states excessively in a monetary union?
98. Define flexible integration and describe its basic types.
99. What are the advantages and disadvantages of alternative integration?
100. Describe the forms differentiated integration may take.
101. How are the possibilities for differentiated integration evolved in the EU?

1.1. Exercises

Sub-chapter 5.1.

1. Is health a local public good? Explain your opinion.
2. Name five services provided by a local government you use and benefit from.
3. Rank them according to their excludability (from the most difficult to exclude from to the least difficult to exclude from). Explain the reasoning behind your ranking.
4. Rank the same services according to their rivalry (from the least rivalrous to the most rivalrous). Explain the reasoning behind your ranking.
5. To which classes of goods (individual goods, club goods, common property, public goods) these services are best suited for? Explain your opinion.
6. (Exercise 17.1 in Hindriks, Myles (2006)) Two jurisdictions have preferences described by $U^A = -(\theta^A - G^A)^2$ and $U^B = -(\theta^B - G^B)^2$, where G^j is the quantity of the local public good in jurisdiction j and $\theta^j > 0$ is a parameter.
 - a) What is the optimal quantity of public good for the two jurisdictions?
 - b) If the public good is centrally provided so that $G^A = G^B$, find the quantity that maximises $U^A + U^B$.
 - c) Calculate the loss from enforcing uniformity of provision.
7. (Exercise 17.5 in Hindriks, Myles (2006)) Consider two districts A and B with two types of residents, rich (R) and poor (P). Rich residents have an income of $Y_R = 2000$ and poor residents have an income of $Y_P = 1000$. Both districts provide a local public good for their residents. The rich residents value the local public good more than the poor residents. That is, the value of the local public good to each resident is $V_i = \frac{Y_i G}{10} - \frac{G^2}{2}$ for $i = R, P$, where G is the level of local public good provision. The cost of the local public good per resident is $C = 5G$.
 - a) What are the marginal value and the marginal cost of the local public good for each type of resident?
 - b) What is the willingness to pay of the rich residents for the local public good? What is the willingness to pay of the poor residents?

- c) In district *A* there are 400 rich residents and 200 poor residents, whereas in district *B* the numbers are reversed. What would be the public good provision in each district if it was decided by majority voting? What type of residents would not be happy with this voting outcome?
8. (Exercise 17.6 in Hindriks, Myles (2006)) Consider the previous exercise and now suppose both types of residents can migrate to the other district.
- Which residents will move?
 - What will be the equilibrium distribution of residents?
 - Are there still residents unhappy with the amount of local public good?
 - Is the provision of public good efficient (according to the Samuelson rule)? Explain why or why not.
9. (Exercise 17.3 in Hindriks, Myles (2006)) Is the allocation of the population between jurisdictions likely to be the efficient division in an economy where property rental is the norm or one where property ownership is the norm?
10. (Based on exercise 6.23 in Hindriks, Myles (2006)) Assume that there are three types of consumers with preferences $U_1 = \alpha_1 \log(G) + x$, $U_2 = \alpha_2 \log(G) + x$, and $U_3 = \alpha_3 \log(G) + x$, where G is the level of local public good provision, x is the private good consumption, and $\alpha_1 < \alpha_2 < \alpha_3$. There is an equal number N of each type of consumers and all consumers have the same income level M . There are two jurisdictions, a and b , that levy a tax t_a and t_b respectively.
- What are the four possible equilibria? (Hint: an equilibrium is a tax rate for each jurisdiction and an allocation of consumers to jurisdictions such that no consumer would prefer to change jurisdiction.)
 - What is the efficient allocation (i.e. the tax rate for each jurisdiction and the allocation of consumers between jurisdictions) if $\alpha_1 = \alpha_2 = \alpha_3$?
 - How does the efficient allocation change if $\alpha_1 < \alpha_2 < \alpha_3$ and α_3 becomes more and more divergent from α_1 ?
11. According to the theory of fiscal federalism the distribution function should be performed at the national level. However, the city of Tallinn has paid for years a pension supplement (in 2014 76,70 euros per year) to residents receiving retirement or disability pensions. How can this contradiction with the theory be explained?
12. The Constitution of the Republic of Estonian states about local government the following.
- § 154. All local issues shall be resolved and managed by local governments, which shall operate independently pursuant to law. Duties may be imposed on a local government only pursuant to law or by agreement with the local government. Expenditure related to duties of the state imposed by law on a local government shall be funded from the state budget.
- § 155. Local governments are rural municipalities and cities. Other local governments may be formed on the bases of and pursuant to procedure provided by law.
- § 156. The representative body of a local government is the council which shall be elected in free elections for a term of four years. The period of authority of a council may be shortened by an Act due to a merger or division of local governments or the inability of the council to act. The elections shall be general, uniform and direct. Voting shall be secret. In elections to local government councils, persons who reside permanently in the territory of the local government and have attained eighteen years of age have the right to vote, under conditions prescribed by law.
- § 157. A local government shall have an independent budget for which the bases and procedure for drafting shall be provided by law. A local government has the right, on the basis of law, to levy and collect taxes, and to impose duties.
- § 158. The boundaries of local governments shall not be altered without considering the opinion of the local governments concerned.
- § 159. A local government has the right to form unions and joint agencies with other local governments.

§ 160. The administration of local governments and the supervision of their activities shall be provided by law.

- a) How many levels of government are there in Estonia? Does the Constitution allow changing the number of levels? Explain your opinion.
- b) Do Estonian local governments have constitutional protection? Explain your opinion.
- c) Do Estonian local governments have power of general competence? Explain your opinion.
- d) In which form (deconcentration, delegation or devolution) is it possible to assign functions to local governments according to the Estonian Constitution? Explain your opinion.

13. Panizza (1999) found in his study that decentralisation tends to increase with country size, income per capita, the level of democracy, and ethnolinguistic fractionalisation. Looking at the data on European Union countries, discuss the validity of Panizza's findings in these countries.

NB. Search for additional information if needed.

Total general government expenditure in the European Union in 2013 (% of GDP)

Countries	General government	Central government	State government	Local government	Social security funds
EU-28	49,0	26,3	4,6	11,6	16,4
EU-15	49,7	26,2	5,0	11,8	16,7
Belgium	54,7	31,1	15,5	7,3	22,5
Bulgaria	38,7	27,7	:	8,4	15,1
Czech Republic	42,3	29,1	:	10,2	5,9
Denmark	57,2	41,3	:	37,5	3,0
Germany	44,7	13,3	12,7	7,8	19,5
Estonia	38,3	28,2	:	10,0	5,2
Ireland	42,9	36,2	:	4,8	5,2
Greece	58,5	49,2	:	3,4	20,2
Spain	44,8	18,3	15,5	5,9	15,8
France	57,1	22,1	:	12,2	27,4
Croatia	45,9	31,5	:	12,3	17,1
Italy	50,6	28,6	:	15,0	20,9
Cyprus	45,8	35,3	:	1,7	10,0
Latvia	36,1	20,1	:	10,3	9,0
Lithuania	34,5	20,6	:	8,4	12,5
Luxembourg	43,5	31,4	:	5,2	18,5
Hungary	50,0	38,0	:	7,6	16,6
Malta	43,9	43,6	:	0,8	:
Netherlands	49,8	27,4	:	15,4	20,1
Austria	51,2	26,1	9,2	8,0	18,2
Poland	41,9	22,8	:	13,1	17,0
Portugal	48,7	36,0	:	6,4	14,2
Romania	35,0	24,7	:	9,0	11,5
Slovenia	59,4	41,2	:	9,7	19,4
Slovakia	38,7	21,0	:	6,3	14,7
Finland	58,5	28,7	:	23,9	20,0
Sweden	52,9	29,3	:	26,0	7,1
United Kingdom	46,9	43,3	:	12,0	:

: - not applicable

Source: Eurostat

Sub-chapter 5.2.

14. According to the concept of benefit regions what determines the number of government levels needed? Is it possible to put this approach directly into practice? Explain. Discuss the problems arising from the number of government levels that is less than the ideal number.
15. The table below provides a conceptual basis for expenditure assignment between levels of government according to Shah (1994). Discuss the appropriateness of these recommendations in Estonian context: which functions should be allocated to which level in a country like Estonia? Explain your opinion. NB. Search for additional information if needed.

Conceptual Basis of Expenditure Assignment

Expenditure Category	Responsibility for		Comments
	Policy, Standards & Oversight	Provisional, Administration	
Defense	F	F	Benefits and costs are national in scope
Foreign Affairs	F	F	Benefits and costs are national in scope
International Trade	F	F	Benefits and costs are national in scope
Monetary Policy, currency & Banking	F	F	Benefits and costs are national in scope
Interstate Commerce	F	F	Benefits and costs are national in scope
Transfer Payments to Persons	F	F	Redistribution
Subsidies to Business and Industry	F	F	Regional development, industrial policy
Immigration	F	F	Benefits and costs are national in scope
Unemployment Insurance	F	F	Benefits and costs are national in scope
Airlines and Railways	F	F	Benefits and costs are national in scope
Fiscal Policy	F, S	F, S, L	Coordination is possible
Regulation	F	F, S, L	Internal common market
Natural Resources	F	F, S, L	Promotes common market
Environment	F, S, L	S, L	Benefits and costs may be national, regional or local in scope
Industry & Agriculture	F, S, L	S, L	Significant interjurisdictional spillovers
Education	F, S, L	S, L	Transfers in kind
Health	F, S, L	S, L	Transfers in kind
Social Welfare	F, S, L	S, L	Transfers in kind
Police	S, L	S, L	Primarily local benefits
Water, Sewage & Refuse	L	L	Primarily local benefits
Fire Protection	L	L	Primarily local benefits
Parks and Recreation	F, S, L	F, S, L	Primarily local responsibility, but national and provincial governments may establish own parks
Highways			
Interstate	F	S, L	Internal common market
Provincial	S	S, L	Provincial benefits and costs
Interregional	S	S, L	Interregional benefits and costs
Local	L	L	Local benefits and costs
Spending Power	F, S	F, S	Fiscal transfers to advance own objectives
Note: F is federal responsibility; S is state or provincial responsibility; and L is local responsibility			

Source: Shah 1994.

16. The table below provides data on the actual division of expenditures between levels of government in Estonia. Compare this actual division with the recommendations given by Shah (1994) (see the table in the previous exercise) and your own preferences about the allocation of functions pointed out in the previous exercise. What should be changed in the allocation of functions in Estonia? Explain your opinion. NB. Search for additional information if needed.

General government expenditure by function in Estonia in 2012 (% of GDP)

COFOG99	General government	Central government	Local government	Social security funds
TOTAL - Total	39,5	29,7	9,9	5,2
GF01 - General public services	3,6	4,5	0,8	0,0
GF0101 - Executive and legislative organs, financial and fiscal affairs, external affairs	2,2	1,6	0,6	0,0
GF0102 - Foreign economic aid	0,1	0,1	0,0	0,0
GF0103 - General services	0,7	0,7	0,1	0,0
GF0104 - Basic research	0,3	0,3	0,0	0,0
GF0107 - Public debt transactions	0,2	0,1	0,1	0,0
GF0108 - Transfers of a general character between different levels of government	0,0	1,7	0,0	0,0
GF02 - Defence	1,9	1,9	0,0	0,0
GF03 - Public order and safety	2,1	2,1	0,0	0,0
GF0301 - Police services	1,1	1,1	0,0	0,0
GF0302 - Fire-protection services	0,2	0,2	0,0	0,0
GF0303 - Law courts	0,2	0,2	0,0	0,0
GF0304 - Prisons	0,2	0,2	0,0	0,0
GF0306 - Public order and safety n.e.c.	0,4	0,4	0,0	0,0
GF04 - Economic affairs	4,5	3,4	1,3	0,0
GF0401 - General economic, commercial and labour affairs	0,3	0,3	0,0	0,0
GF0402 - Agriculture, forestry, fishing, hunting	0,7	0,7	0,0	0,0
GF0405 - Transport	2,9	2,1	1,0	0,0
GF0407 - Other industries	0,2	0,0	0,1	0,0
GF0408 - R&D Economic affairs	0,2	0,2	0,0	0,0
GF0409 - Economic affairs n.e.c.	0,1	0,0	0,1	0,0
GF05 - Environment protection	0,9	0,6	0,3	0,0
GF0501 - Waste management	0,2	0,0	0,2	0,0
GF0502 - Waste water management	0,1	0,1	0,1	0,0
GF0503 - Pollution abatement	0,1	0,1	0,0	0,0
GF0504 - Protection of biodiversity and landscape	0,2	0,1	0,1	0,0
GF0505 - R&D Environmental protection	0,1	0,1	0,0	0,0
GF0506 - Environmental protection n.e.c.	0,2	0,2	0,0	0,0
GF06 - Housing and community amenities	0,7	0,0	0,7	0,0
GF0601 - Housing development	0,1	0,0	0,1	0,0
GF0603 - Water supply	0,3	0,0	0,3	0,0
GF0604 - Street lighting	0,1	0,0	0,1	0,0
GF0606 - Housing and community amenities n.e.c.	0,1	0,0	0,1	0,0

GF07 - Health	5,1	2,1	1,8	4,0
GF0701 - Medical products, appliances, equipment	0,7	0,0	0,0	0,7
GF0702 - Outpatient services	0,4	0,1	0,1	0,3
GF0703 - Hospital services	3,8	1,8	1,7	3,0
GF0705 - R&D Health	0,1	0,1	0,0	0,0
GF0706 - Health n.e.c.	0,1	0,1	0,0	0,0
GF08 - Recreation, culture and religion	1,7	1,0	0,8	0,0
GF0801 - Recreational and sporting services	0,4	0,1	0,3	0,0
GF0802 - Cultural services	1,0	0,6	0,5	0,0
GF0803 - Broadcasting and publishing services	0,2	0,2	0,0	0,0
GF0806 - Recreation, culture and religion n.e.c.	0,1	0,1	0,0	0,0
GF09 - Education	6,4	3,1	3,5	0,0
GF0901 - Pre-primary and primary education	2,2	0,1	2,1	0,0
GF0902 - Secondary education	1,6	0,6	1,1	0,0
GF0903 - Post-secondary non-tertiary education	0,3	0,3	0,0	0,0
GF0904 - Tertiary education	1,7	1,7	0,0	0,0
GF0905 - Education not definable by level	0,1	0,0	0,0	0,0
GF0906 - Subsidiary services to education	0,1	0,0	0,1	0,0
GF0907 - R&D Education	0,2	0,2	0,0	0,0
GF0908 - Education n.e.c.	0,3	0,2	0,0	0,0
GF10 - Social protection	12,6	10,9	0,8	1,2
GF1001 - Sickness and disability	2,4	1,9	0,1	0,5
GF1002 - Old age	6,9	6,7	0,3	0,0
GF1003 - Survivors	0,1	0,1	0,0	0,0
GF1004 - Family and children	1,7	1,6	0,2	0,0
GF1005 - Unemployment	1,1	0,5	0,0	0,7
GF1007 - Social exclusion n.e.c.	0,1	0,0	0,1	0,0
GF1009 - Social protection n.e.c.	0,2	0,2	0,0	0,0

Source: Eurostat

17. The table below provides data on the share of local government expenditures in general government expenditures by function in European countries in 2012 (see the description of the code from the table in the previous exercise). Discuss the accordance of the division of expenditures between local and central governments to the recommendations given by Shah (1994) (see the table in the exercise 12). Is it possible to bring out any generalisations? Explain. NB. Search for additional information if needed.

Share of local government expenditures in general government expenditures in 2012 (%)

Countries	Total	GF01	GF02	GF03	GF04	GF05	GF06	GF07	GF08	GF09	GF10
EU	23,9	24,8	0,1	25,0	32,8	74,8	95,4	21,1	62,1	39,8	13,1
EU-15	23,8	25,1	0,1	26,4	32,7	75,2	97,2	21,0	63,4	37,9	13,4
Belgium	13,3	16,7	0,0	51,4	11,4	51,4	39,9	0,8	52,3	22,0	7,8

Bulgaria	18,9	18,5	1,8	3,7	15,5	83,9	90,9	12,8	42,5	62,3	4,3
Czech Rep.	23,1	27,5	0,9	10,8	40,5	72,0	63,9	3,4	30,0	68,6	4,4
Denmark	63,7	18,0	1,0	8,8	42,3	56,0	63,5	98,5	50,5	48,0	83,3
Germany	17,0	22,8	0,0	15,6	29,4	59,0	59,6	1,9	60,7	27,8	13,1
Estonia	25,2	22,0	0,0	1,4	28,4	37,7	97,5	34,3	46,3	54,4	6,3
Ireland	12,2	4,9	0,0	9,9	29,1	73,3	82,9	0,0	33,2	22,7	5,9
Greece	6,0	8,2	0,0	1,3	16,9	89,6	56,6	0,0	37,3	1,4	2,8
Spain	12,5	34,9	0,0	23,8	12,5	69,4	65,5	1,4	55,2	4,9	3,0
France	21,1	33,1	0,0	20,3	42,0	92,0	91,6	1,0	84,3	29,1	8,9
Italy	29,8	22,9	0,0	11,8	59,8	88,2	81,7	98,2	51,1	26,6	3,4
Cyprus	4,4	6,9	0,0	0,0	0,0	91,3	23,9	0,0	28,3	0,0	0,0
Latvia	27,2	20,5	0,0	8,6	22,8	22,7	94,9	23,7	50,0	66,1	9,4
Lithuania	26,2	14,9	0,5	19,1	27,1	80,0	97,2	28,2	44,1	57,8	10,8
Luxembourg	12,4	26,9	0,0	10,6	19,2	63,7	57,1	0,3	39,0	14,8	2,1
Hungary	19,3	21,4	0,0	2,0	17,6	61,8	61,3	14,8	31,1	56,5	7,4
Malta	1,8	7,0	0,0	2,3	1,5	12,6	0,0	0,0	3,6	0,0	0,0
Netherlands	32,4	22,6	0,0	54,7	53,2	92,8	89,1	3,3	83,4	82,7	14,3
Austria	15,2	19,9	0,1	9,9	15,8	60,6	37,5	18,5	51,4	25,4	7,2
Poland	31,4	24,3	0,3	16,4	44,4	81,9	82,3	40,6	79,2	70,0	10,6
Portugal	12,6	21,0	0,0	3,5	36,2	86,8	85,9	5,8	63,4	12,3	2,2
Romania	26,4	19,7	0,4	4,6	28,4	69,6	84,6	41,2	70,2	64,3	10,4
Slovenia	20,0	16,3	0,0	7,2	28,0	65,2	60,0	15,2	46,8	55,6	5,7
Slovakia	16,8	14,3	0,1	3,5	26,5	55,7	69,1	0,3	38,6	65,9	4,0
Finland	41,2	45,5	:	18,4	33,1	29,8	54,2	84,6	72,5	63,4	23,8
Sweden	49,2	42,4	0,6	15,3	36,3	57,9	92,6	97,1	77,2	77,1	31,7
UK	28,0	21,5	0,2	49,8	31,6	58,2	182,8	0,0	44,5	61,1	22,2
Iceland	28,9	18,6	0,0	8,5	23,5	45,0	31,4	1,0	65,0	59,2	28,4
Norway	34,1	37,1	0,0	15,5	33,1	79,0	92,7	29,3	63,7	66,1	23,3
Switzerland	22,2	37,2	3,9	24,4	23,8	66,8	82,5	13,8	61,5	30,8	10,7

Source: Eurostat

18. Discuss the advantages of a three level administrative system (top office, middle office, low office) compared to a two level administrative system in general and in relation to Estonian situation.
19. Discuss the disadvantages of a three level administrative system (top office, middle office, low office) compared to a two level administrative system in general and in relation to Estonian situation.
20. Discuss the advantages of a three level government system (central, regional and local governments) compared to a two level government system (central and local governments) in general and in relation to Estonian situation.
21. Discuss the disadvantages of a three level government system (central, regional and local governments) compared to a two level government system (central and local governments) in general and in relation to Estonian situation.
22. If Estonia establishes a three level government system (central, regional and local governments), which functions should be fulfilled in the regional level? Explain your opinion.

Sub-chapter 5.3.

23. Should the taxing power of local governments be somehow restricted in the world corresponding to the Tiebout hypothesis? Explain your opinion. Are the restrictions needed in the real world? Explain.
24. Discuss the validity of the connexity principle in Estonia.
25. Discuss the consequences of source-based taxation of capital income. Discuss the consequences of residence-based taxation of capital income. Compare the efficiency of cross-border investment in the case of source-based taxation of capital with the residence-based taxation of capital.
26. (Exercise 18.4 in Hindriks, Myles (2006)) Consider a world economy consisting of N identical countries, each endowed with one unit of labour. Labour is immobile. The world economy also contains one unit of capital that is freely mobile across countries. All countries have identical production functions given by $f(L, K) = L^{\frac{3}{4}}K^{\frac{1}{4}}$, where L denotes labour and K denotes capital. The price of output is fixed at \$1.
27. Suppose that none of the countries tax either capital or labour. Find the equilibrium interest rate and allocation of capital across countries. What is the total income received by capitalists (the owners of the fixed factor of production) and workers? Evaluate the interest rate and income levels for $N = 2$ and $N = 20$.
28. Consider the impact of a tax at rate τ on capital income in country 1 if other countries do not tax capital income. Assume that tax revenues are used to buy output at the fixed price of \$1. What is now the after-tax return on capital invested in country 1? What is the equilibrium interest rate and allocation of capital across countries? Find the total income received by capitalists and workers and the tax revenues in country 1 as a function of N and τ .
29. (Exercise 18.5 in Hindriks, Myles (2006)) Consider the exercise above and set the capital income tax rate in country 1 at $\tau = 0,20$.
 - a) Find the change in total capital income, total labour income, and the revenue raised in country 1 for $N = 2$ and $N = 100$.
 - b) What happens to the before-tax marginal product of capital in the countries without taxes for $N = 2$ and $N = 100$?
 - c) Are the workers in country 1 better off as a result of the tax? What about the impact of the tax on the welfare of the workers in nontaxing countries?
 - d) Discuss the tax-shifting between workers and capitalists as the number of countries increases from $N = 2$ to $N = 100$.
30. (Based on exercise 18.8 in Hindriks, Myles (2006)) A car manufacturer can choose to locate a new plant in country A or country B . Your job is to determine where to locate this new plant. The only inputs used in car production are labour and capital, and the production function is Cobb-Douglas: $F(L, K) = L^{\frac{1}{2}}K^{\frac{1}{2}}$, where L is the labour input and K the capital input. In country A , labour costs \$7 per unit and capital costs \$7 per unit, while in country B , labour costs more (\$8) but capital costs less (\$6).
 - a) In which country should you locate the new plant so as to minimize cost per unit of output (i.e. average cost)?
 - b) Now assume that country A subsidises labour so that labour costs \$6 per unit in country A . Does it change the location decision of the firm?
 - c) Instead of subsidising labour, suppose that country A subsidises capital so that capital costs \$6 per unit. Does it change the location decision of the firm?
 - d) What would happen if both countries act identically and offer a \$1 subsidy to each unit of labour? What would be the location decision of the firm?
 - e) What would happen if both countries act identically and offer a \$1 subsidy to each unit of capital? What would be the location decision of the firm?

- f) Has any country an incentive to offer some kind of subsidy to the firm, and if so, which kind and why?

31. Discuss the main advantages and disadvantages of using charges for financing public services compared to other revenue sources (taxes, transfers). Should charges be used more intensively in Estonia? Explain your opinion.
32. How well are different taxes suited for implementation at the local level according to the criteria that a good local tax should meet?
33. Fill the table below for the following taxes: personal income tax, corporate income tax, payroll tax, VAT, excises, property tax, and tax on exploitation of natural resources. Explain your answers.
34. Are there any other considerations that should be kept in mind when sharing the taxing powers between the levels of government?
35. Which taxes are most suitable for the local level? Explain.
36. Discuss the accordance of the division of taxing powers between the levels of government in Estonia with your findings.

Suitability of different taxes for the implementation at the local level

Criteria	Personal income tax	Corporate income tax	...
Revenue potential			
Equity			
Principle of benefit taxation			
Immobility of the tax base			
Geographically uniform distribution of the tax base			
Tax is well defined in geographical space			
Visibility of the tax			
Tax burden on local residents			
Income and inflation elasticity of the tax yield			

37. Answer the following questions.

- a) Which of the revenue sources of Estonian local governments given in the table below can be considered as free revenues? Explain.
- b) Which of the revenue sources of Estonian local governments given in the table below can be considered as municipalities' own revenues? Explain.
- c) Calculate the share of free revenues from total local revenues.
- d) Calculate the share of own revenues from total local revenues.
- e) Discuss the possibilities of increasing own revenues of Estonian local governments. Which way would you suggest and why?

Estonian local governments' revenues in 2013 (euro)

Revenue sources	2013
Personal income tax	725 750 958,74
Land tax	57 556 211,46
Local taxes	10 943 925,56
Sales of goods and services	148 814 173,43
Received grants for current activities	367 524 921,64
- equalisation fund	74 252 136,98
- block grant from state budget	230 916 815,02
- other grants for current activities	62 355 969,64
Other primary revenues	21 735 454,58

- fee from the use of natural resources	12 316 702,85
- fee from the special use of water	5 377 014,45
- pollution charges and compensation for environmental damages	431 868,45
- other primary revenues	3 609 868,83
Sale of property	11 919 864,83
Received grants for investments	132 352 710,51
Sale of financial assets	9 837 621,20
Received loan repayments	159 955,74
Financial incomes	2 821 413,01
Total revenues	1 489 417 210,70

Source: Ministry of Finance of the Republic of Estonia

38. Consider a country where one municipality locates in an island separated from the others. The government of this municipality has total resources B that have to be divided between educational expenditures E and spending on other public goods G . The preferences of residents over the expenditures are given by $U = a \ln G + (1 - a) \ln E$, where $a \in (0,1)$. The cost of a unit of education is p_E .
- The municipality maximises the utility function of its residents. How many units of education does the municipality provide? How are the total resources divided between educational expenditures and other spending (what are the proportions of E and G respectively)?
 - The central government is worried because the exam results of the students from this municipality are lagging behind. There are not enough good teachers on the island and the number of students has declined so that the municipality has been forced to establish compound classes to keep costs under control. The central government has to decide which kind of grant to use to improve the situation.
 - The first possibility is to offer the municipality a matching grant so that each euro that the municipality spends on education is supplemented by b euros by the central government. How many units of education does the municipality provide in this case? How high are the costs for central government? Show the situation also graphically (both the original situation without the central government grant and the situation with the matching grant).
 - The second possibility is to use a block grant. Suppose that the size of the block grant is equivalent to the size of the matching grant found in part (b). How many units of education does the municipality provide in this case? Show the situation also graphically (both the original situation without the central government grant and the situation with the block grant).
 - The third possibility is to use an earmarked non-matching grant, i.e. the municipality is obliged to use the grant for educational spending. Suppose that the size of the earmarked non-matching grant is equivalent to the size of the matching grant found in part (b). How many units of education does the municipality provide in this case? Show the situation also graphically (both the original situation without the central government grant and the situation with the earmarked non-matching grant).
 - Compare the results under these three grant programs and discuss the causes of differences (e.g. compare the change (compared to the initial situation found in (a)) in the units of education provided by the municipality under different grant programs; compare the utility levels of residents under different grant programs; explain whether the change in the units of education is caused by a substitution effect or by an income effect or by both of them.)
 - Which grant program should the central government choose? Explain your opinion.

39. In Estonia the support from the state budget is allocated to local authorities in the following ways: 1) through equalisation fund, 2) through block grants, and 3) on a case-by-case basis to support specific activities or investments. The principles for allocation, the conditions of use, the principles for determining the size and the actual size of different grants for the current year are negotiated between the authorised representatives of the local governments and local government associations and the central government. If an agreement is not reached, these questions are decided by the central government alone.

The purpose of the equalisation fund is to balance differences among the income bases of local governments and to provide all local governments with the possibility to render adequate public services to their inhabitants without determining the conditions of use of the allocated funds. The equalisation formula takes into account the proceeds from the personal income tax and the land tax to the local budget, the number of inhabitants of different ages, the length of local roads and some other factors. The block grants are allocated to local governments for specific purposes determined by the central government (e.g. educational expenses, national income support, etc.) and on the basis of certain indicators (e.g. support for educational expenses depends mainly on the number of pupils). Grants on a case-by-case basis to support specific activities or certain investments are allocated to local governments by several ministries.

- a) Which grant types are used in Estonia according to the OECD classification? Explain your opinion.
- b) Are the grant types used in Estonia in correspondence with their goals? Are there any better ways for achieving these goals, i.e. should the grant policy be changed in Estonia? Explain your opinion.

40. The table below provides data on the revenues, expenditures and population of local governments of two Estonian counties, Harju County and Võru County.

- a. Calculate the share of different revenue sources from municipalities' total revenues and revenues per inhabitant.
- b. Calculate the share of different expenditures from municipalities' total expenditures and expenditures per inhabitant.
- c. Discuss the differences in the structure of revenues and expenditures. What may be the reasons for the differences?
- d. Discuss the possibilities of Estonian local governments to raise their revenues. What are the possibilities for that? Are there any differences between municipalities of Harju and Võru County in the actual alternatives available?

Revenues, expenditures and population in local governments of Estonia, Harju County and Võru County in 2013 (euro)

Revenues, expenditures, population	Estonia	Harju County	Võru County
Personal income tax	725 750 958,74	369 500 598,64	14 294 488,00
Land tax	57 556 211,46	38 212 666,67	839 249,00
Local taxes	10 943 925,56	8 915 965,75	32 409,38
Sales of goods and services	148 814 173,43	69 652 837,94	3 754 970,76
Received grants for current activities	367 524 921,64	106 138 104,80	14 267 673,80
- equalisation fund	74 252 136,98	696 281,00	5 519 627,00
- block grant from state budget	230 916 815,02	86 196 723,00	7 248 180,00
- other grants for current activities	62 355 969,64	19 245 100,80	1 499 866,80
Other primary revenues	21 735 454,58	4 687 171,35	383 543,68
Sale of property	11 919 864,83	6 861 648,95	55 443,55
Received grants for investments	132 352 710,51	40 976 841,44	7 595 978,46
Sale of financial assets and financial incomes	12 818 989,95	11 456 914,09	7 279,28

Total revenues	1 489 417 210,70	656 402 749,63	41 231 035,91
General public services	136 662 696,92	63 632 554,36	3 138 115,46
Public order and safety	5 100 161,77	3 870 224,09	40 361,91
Economic affairs	270 300 838,25	142 098 182,43	5 213 098,42
- maintenance of roads	146 196 062,52	64 008 057,55	3 773 202,29
- public transport	73 697 652,27	58 848 354,91	86 236,32
Environment protection	54 377 383,85	27 892 371,65	1 525 653,66
Housing and community amenities	102 738 909,50	47 555 243,53	3 336 779,67
Health	10 834 593,14	8 805 577,80	35 561,53
Recreation, culture and religion	202 488 430,01	84 935 483,08	5 739 844,05
Education	655 160 979,16	270 257 821,13	21 479 776,17
Social protection	124 523 682,74	50 792 269,40	3 687 812,87
- disability	17 150 270,10	7 349 224,10	885 675,59
- retirement homes	32 146 649,45	7 616 025,52	1 018 660,05
- other social protection of elderly	13 075 985,21	9 753 699,17	61 996,17
- national income support	19 679 107,31	5 159 144,37	680 785,90
Total expenditures	1 562 187 675,34	699 839 727,47	44 197 003,74
Population	1 320 174	567 967	33 826

Source: Ministry of Finance of the Republic of Estonia, Statistics Estonia.

41. According to the Local Government Financial Management Act (RT I 2010, 72, 543) an Estonian local government may take loans, issue bonds, assume finance lease and factoring obligations and obligations on the basis of service concession agreements for:

- 1) investments;
- 2) targeted financing granted for acquisition of fixed assets;
- 3) acquisition of holdings, shares and other equity instruments;
- 4) performance of the debt obligations specified in clauses 34 (2) 1)–3) and 7) of this Act (see below);
- 5) granting the loans in accordance with the budget strategy for investments to a unit which has been dependent thereon in the last 3 years and which is dependent thereon in the budgetary year.
- 6) A local government may take a loan for the purpose of managing cash flows provided that the loan shall be repaid by the end of the budgetary year.

To ensure financial discipline the value of operating result as at the end of an accounting year shall not be lower than zero. Operating result is the difference between operating revenue and operating expenditure. To ensure financial discipline the upper limit on net debt is also legally endorsed. Net debt is the difference between the amount of the debt obligations specified in subsection (2) of § 34 and the total amount of the liquid assets. Liquid assets mean cash and funds on bank accounts, shares and units of money market and interest funds, and acquired bonds. According to § 34 subsection (2) the following obligations recorded in the balance sheet are taken into account upon calculating net debt:

- 1) loans taken;
- 2) finance lease and factoring obligations;
- 3) bonds issued;
- 4) obligations not performed within the term;
- 5) obligations to repay received support;
- 5¹) advance payments received for support;
- 5²) obligations to grant support;
- 6) long-term debts to suppliers;

- 7) obligations arising from service concession agreements;
- 8) other long-term obligations requiring future payments.

At the end of an accounting year, the net debt may amount to a six fold difference between the operating revenue and operating expenditure of the accounting year ended but shall not exceed the total amount of the operating revenue of the same accounting year. If the six fold difference between the operating revenue and operating expenditure is less than 60% of the operating revenue of the corresponding accounting year, the net debt may amount to up to 60% of the operating revenue of the corresponding accounting year. Net debt may exceed the upper limit on net debt by the total amount of debt obligations assumed to provide bridge financing for support. Bridge financing shall mean the assumption of debt obligations to the extent of targeted foreign financing and received co-financing related thereto in order to make payments within the framework of the respective project until the receipt of targeted financing and co-financing.

If the state financial forecast which provides the basis for the state budget strategy indicates during a budgetary year the increase of the budget position deficit of the general government sector in excess of 2,5% of the GDP or the increase of the debt of the general government sector in excess of 55% of the GDP, the extraordinary restriction on assumption of debt obligations shall apply. The duration of the restriction shall be 90 days. During the period of the extraordinary restriction on assumption of debt obligations, a local government and a unit dependent thereon may assume only the debt obligations specified in § 34 (2) 1)–3) and 7) of this Act in order to ensure bridge financing for the following support or self-financing necessary for receiving the following support:

- 1) support received on the basis of the Structural Assistance Act;
- 2) support received from the European Union on the basis of other legislation;
- 3) support allocated to the Republic of Estonia on the basis of international agreements;
- 4) investment support granted from the state budget.

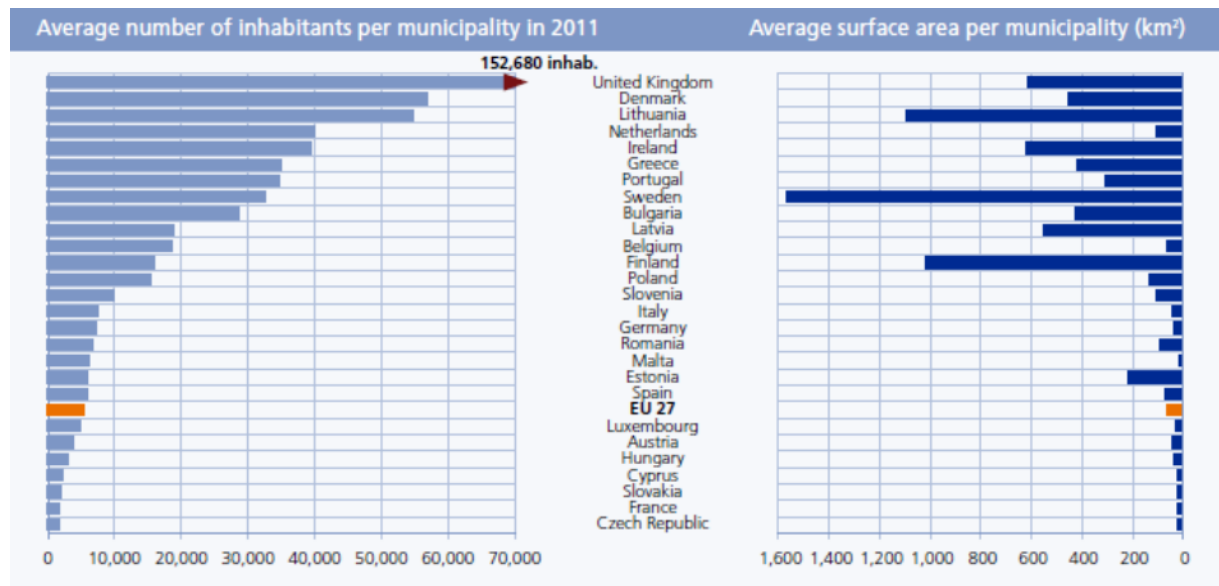
During the period of the extraordinary restriction on assumption of debt obligations, a local government and a unit dependent thereon shall submit an application for approval for assumption of an obligation to the Ministry of Finance before assumption of the respective obligation.

- a) Is the “golden rule” of balanced budget applied in Estonian local government? Explain your opinion.
- b) Discuss the level of autonomy of Estonian local governments in entering the credit market and taking financial obligations. Which of the four broad categories of controlling sub-national borrowing introduced by Ter-Minassian (1997) is used in Estonia? Explain your opinion.

Sub-chapter 5.4.

42. Discuss the trade-offs in territorial consolidation vs. fragmentation (between system’s capacity and citizens’ efficiency).
43. Discuss the issue of determining the optimal size for a municipality from different perspectives.
44. Discuss the issues related to the politics of implementation of territorial reforms.
45. Discuss the potential and problems of voluntary cooperation of local governments as a substitute for territorial consolidation.
46. On the figure below there are given the average number of inhabitants and the average surface area per municipality in the EU countries in 2011. From the table in the exercise 10 you will find the distribution of general government expenditures between the levels of government in the EU countries in 2013. According to Swianiewicz (2010) territorial fragmentation is one of the major barriers for decentralisation and effective functioning of local governments in CEE countries.
 - a) Discuss the validity of this statement in the case of CEE countries belonging to the EU.
 - b) Is this statement valid for the other EU countries?

- c) In which countries it may be reasonable to consider the implementation of a territorial reform? Explain your opinion.



Average number of inhabitants and average surface area per municipality in the EU countries in 2011

Source: Sub-national public finance... 2012

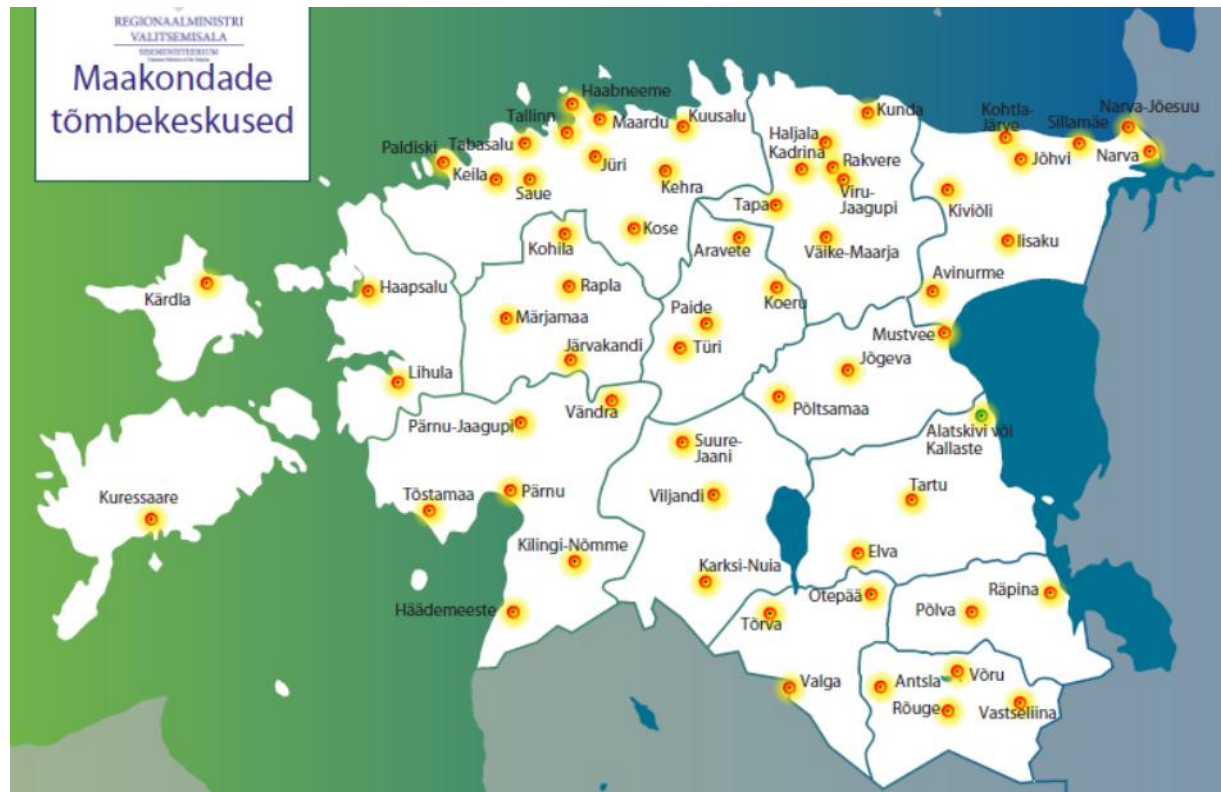
47. It has long been argued that there is a need for a local government reform in Estonia because of the current territorial fragmentation and the difficulties many municipalities have in fulfilling their tasks. There have been several reform proposals but so far none of them has realised. There are several possibilities for changing the situation in Estonia. Discuss in relation to each reform proposal listed below the following aspects. NB. Search for additional information if needed.
- Advantages of the proposal.
 - Disadvantages of the proposal and possible difficulties in carrying out the reform.
 - Reasonable division of functions between levels of government and the level of expenditure autonomy of sub-national governments.
 - Recommended sources of sub-national revenues including sources of sub-national own revenues and the revenue autonomy of sub-national governments.
 - Any other aspect you consider important in relation to this reform proposal.

The reform proposals you have to consider are the following.

- Creating two sub-national levels – regional level on the basis of current counties and local level on the basis of current municipalities without forcing current municipalities to join. Bigger cities may get the status of regional level authorities.
- Abolishing current local governments and creating local government level on the basis of current counties and bigger cities with the possibility to form rural municipality districts and city districts on their territory. These rural municipality and city districts may be formed on the basis of current municipalities or totally new districts may be created (smaller or larger than the current municipalities).
- Maintaining current territorial distribution but applying asymmetric decentralisation so that the assignment of functions to local governments is based on some criteria such as population size, fiscal capacity and/or some other factors (you should provide your own criteria). In this case smaller and fiscally less capable municipalities are responsible only for providing some basic services and the other services are provided by the central government (e.g. through its regional agencies). At the same time larger and more capable

municipalities may gain responsibility over some services that are currently provided by the central government.

- d) Applying the model of catchment centre (*tõmbekeskused*) discussed recently in Estonia. In that case smaller municipalities have to join the catchment centre to form new jurisdictions with at least 5000 inhabitants. The reform should result in about 60 municipalities. It is still possible to form rural municipality districts and city districts on the territory of these new jurisdictions. The map with proposed catchment centre is given below.
- e) Your own proposal(s) for local government reform in Estonia.
- f) Which reform proposal do you prefer or do you think a local government reform is not needed in Estonia? Explain your opinion.



Source: Estonian Ministry of the Interior

Sub-chapter 5.5.

48. Discuss the similarities and differences between Buchanan-type clubs (Buchanan 1965) and FOCJ.
49. Discuss the similarities and differences between the concept of FOCJ, traditional fiscal federalism model with multi-functional governments, and Christaller's central place theory.
50. Friedrich and Reiljan (2011) have proposed to use the system of FOCJ in financing the general education system in Estonia.
 - a) Compare the system of FOCJ proposed by them with the theoretical concept of FOCJ. Which criteria of FOCJ are fulfilled in the system proposed by Friedrich and Reiljan (2011) and which are not?
 - b) How is general education organized and financed now in Estonia?
 - c) Discuss the main advantages of the proposed school-FOCJ compared to the current system of organizing and financing schools in Estonia.
 - d) Discuss the main disadvantages of the proposed school-FOCJ compared to the current system of organizing and financing schools in Estonia.
 - e) Do you think the system of school-FOCJ would be beneficial to Estonia? Explain your opinion.

51. Find a service in Estonia (except schools) for which it may be beneficial to use the system of FOCJ.
- a) Explain why you chose this particular service, i.e. why do you think the system of FOCJ may be beneficial in this case.
 - b) How is the provision and financing of this service organized now in Estonia?
 - c) Discuss the main advantages of using the system of FOCJ compared to the current system of organizing and financing this particular service in Estonia.
 - d) Discuss the main disadvantages of using the system of FOCJ compared to the current system of organizing and financing this particular service in Estonia.
 - e) Does any country use a system similar to FOCJ in providing this particular service? What may be the reasons for doing (or not doing) this?

Sub-chapter 5.6.

52. What are the main problems in relation to the EU budget? Explain your opinion. How to overcome these problems?
53. According to the fiscal federalism theory distribution function should be centralised, i.e. carried out at the highest level possible. Should the distribution function be centralised in the EU, i.e. should the EU provide redistribution between individuals at the EU level? What would be the advantages of this system? What problems could this system cause?
54. How may the principal-agent approach be used in relation to the EU? Who should be the principle and who should be the agent(s)? Does this depend on the problem under discussion, and if yes then how? Give some examples.
55. How extensively is the fiscal policy of member states constrained in the EU at the moment in your opinion? Are the member states still able to use fiscal policy for stabilisation purposes? Explain your opinion.
56. Should differentiated integration be more used in the EU? In what areas may it be beneficial? What would be the advantages of this system? What problems could this system cause?
57. According to the fiscal federalism theory stabilisation function should be centralised, i.e. carried out at the highest level possible. The question is should this mean the EU level? Currently the stabilisation function is executed mainly at national level in the EU. In light of the recent financial crises the discussions about the need to centralise fiscal policy in a monetary union have revived. In order to be able to participate in this discussion, find a scientific article dealing with this topic (not one of those discussed in the lectures). Read it through carefully and prepare a short summary (about half a page).
58. Use the articles about the need for centralisation of fiscal policy in a monetary union (see the previous exercise) and the knowledge gained during the lectures to compile a mind-map on the centralisation of fiscal policy (or stabilisation function) in the EU (Eurozone) as a teamwork in groups of 5-6 people. You should address issues such as the need for centralisation, the advantages and disadvantages of centralisation, the implementability of centralisation, the need for new institutions in case of centralisation, etc.

Summary

This instructional material is based on economic approach for public management. We have attempted to combine in this material also approaches from public administration, business administration and political science, while maintaining the economic approach as essential one. The reader may notice that the theories that are generally less known for economists have received more attention as we have found them suitable for teaching public management. The well-known theories are only mentioned but not repeated in depth.

There are several ways for combining the sub-chapters into academic courses. One is to have together the chapters 1, 2 and 4, which describe public units, their microeconomic foundations and management. This could form a course of public offices and public enterprises, whereby the teaching activities are designed for a 6 ECTS course at the intermediate (master) level. One could also extend the topics we have discussed with the topics of entrepreneurship in public sector, new company forms, and collaborations (like PPP-s). The chapters 3 and 5 could also be combined as these involve macroeconomics of public sector, fiscal federalism, functional and territorial reforms. The activities are also designed for a 6 ECTS course.

In order to embed this knowledge into the wider framework of the curricula building, the program requires some preceding courses in bachelor level **law** - concerning the methods, definitions and reasoning in law, the main features of state and public law - and a course in master level general administrative law. With respect to **sociology**, an introduction to definitions, methods and analysis (bachelor level) might be sufficient, but it should be followed by a special course on sociology of public administration (master level). **Political science** courses on methods, definitions and central research questions (bachelor level) should be provided as well a course on political institutions and decision-making in EU and Estonia (bachelor level) and a course on public choice (master level). Additional course on **benchmarking** (bachelor level) and a benchmarking course on municipal administration on the master level could also be added. The students should have the full bachelor program in **economics** including the bachelor courses in **business administration**. For the master the education should comprise the program in **public finance** and **public management, micro and macroeconomics**. In addition there should be seminars on business **accounting**, economic accounting, social accounting, accounting in public offices, about public sector planning problems, auditing of public offices and actual topics of functional, territorial and fiscal reform.

Although our teaching activities involve the usage of e-government sources and aim to develop the communication skills of students, special courses on the master level dedicated to the **communication** and **e-commerce** are necessary for future public managers.

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