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Educational Standards
for Economic Education at All Types of
General-education Schools in Germany

Final Report to the Gemeinschaftsausschuss der Deutschen Gewerblichen Wirtschaft (Working Group „Economic Education“)

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1 The role of economic education for general education

Modern society is characterised by an increasing significance of economy. At the same time, economic challenges are becoming more versatile and more complex. A person’s economic competences are required in more and more life situations. His economic abilities of judgement and action have therefore to develop in the same extent as his conditions are getting more economic. Private households need to cope with sometimes highly demanding tasks concerning the use and investment of income, as well as the provision for retirement and general risks. Employment primarily serves to insure one’s subsistence – be it as an employee or an entrepreneur. As economic citizens we are confronted with fundamental statutory regulations of economic order. Through taxation, we contribute to the financing of collective tasks. Life today cannot neither be explained nor shaped without the economic rationale, since opportunities for personal development depend on rational management of the vast economic challenges.

In private as well as in professional life scarce resources must be allocated. For an optimal outcome each individual needs a minimum of economic education. Informal learning through imitation of role models or through own experience does nowadays not guarantee the achievement of this objective. Economic education therefore requires a systematic approach to imparting economic knowledge and thinking *at school*.

Adolescents shall moreover be able to assess and shape the rapid and profound transformations in our economy and society. Economic education empowers to lead one’s live consciously, to partake in society and contribute to political affairs, and thus fosters the integration of adolescents into society. Social classes with no academic background benefit particularly from a solid base of economic education, since it creates professional opportunities, clarifies financial risks and hence contributes to an economically successful conduct of life. The status of economic education within general education therefore results from the individual *and* social significance of our economic system and labour market.

On this basis, the following standards for economic education at general-education schools were developed as an orientation for curricular design from primary school to university entrance diploma, which is valid for all federal states.

Individual competences can be regarded as the ability and willingness of an individual to apply forms of thinking and argumentation, methodologies of knowledge generation, decision-making processes and behaviours to a specific domain, in order to assess and act in a way that is appropriate in the respective situation to solve problems. Competences are an individual *potential* that needs to be implemented repeatedly in varying life situations. Economically educated individuals are therefore equipped with fundamental, extendible and transferable competences by which they can cope with economic requirements in familiar and new situations.

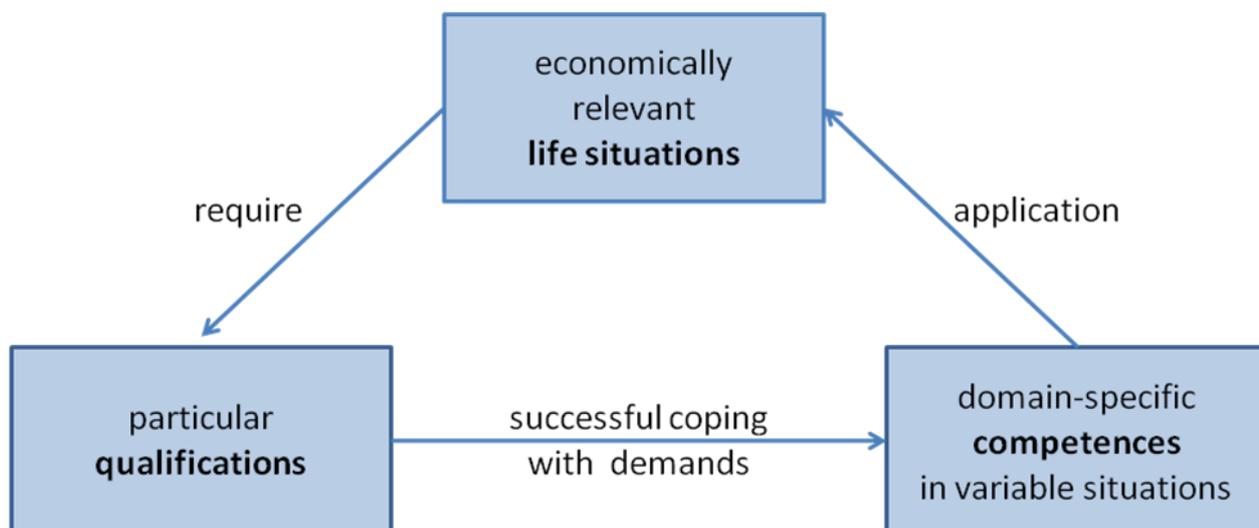


Fig. 1: Economic education as a contribution to cope with economically relevant life situations

Economic education at all types of school and at all levels of education is thereby committed to three guiding principles: *Mündigkeit* (autonomy), *Tüchtigkeit* (capability) and *Verantwortung* (responsibility).

Here, *Mündigkeit* shall be understood as the ability and willingness to behave autonomously in the economic domain. It is an important principle, since students enjoy comprehensive liberties and opportunities for individual development in our democracy and social market economy. An open society offers its members manifold options for private and professional personal development and it creates a need for orientation that has to be covered among others by economic education. In a market economy, individuals are in need of economic competences, as the statutory framework provides them with economic liberty in the field of consumption, choice of profession, domicile and labour mobility and they need to learn to use these liberties.

Tüchtigkeit shall be considered the ability and willingness of individuals to meet the performance requirements, they are confronted with throughout their lives (e.g. as a consumer, debtor, entrepreneur or tax payer). Thus, students need to know, what requirements are put upon them in different life situations and what knowledge and abilities they need to meet them. *Tüchtigkeit* can be understood as a domain specific set of capabilities that implies methodological knowledge as well as abilities of proper judgement and action.

Verantwortung, in addition to personal responsibility, contains a concern about fellow men. This responsibility particularly covers the concern about the wellbeing of entrusted individuals that are themselves not *autonomous* and *capable*, the consideration of legitimate interests of partners in economic relationships, the responsible contribution to society and sustainable economic agency. Economic responsibility surfaces in appropriate behaviour within households, businesses, markets and society.

In short, in today’s economy and society, economically educated individuals can express their interests autonomously, are capable of proper judgement and act *responsibly*. Economic education is therefore an *essential part of general education*.

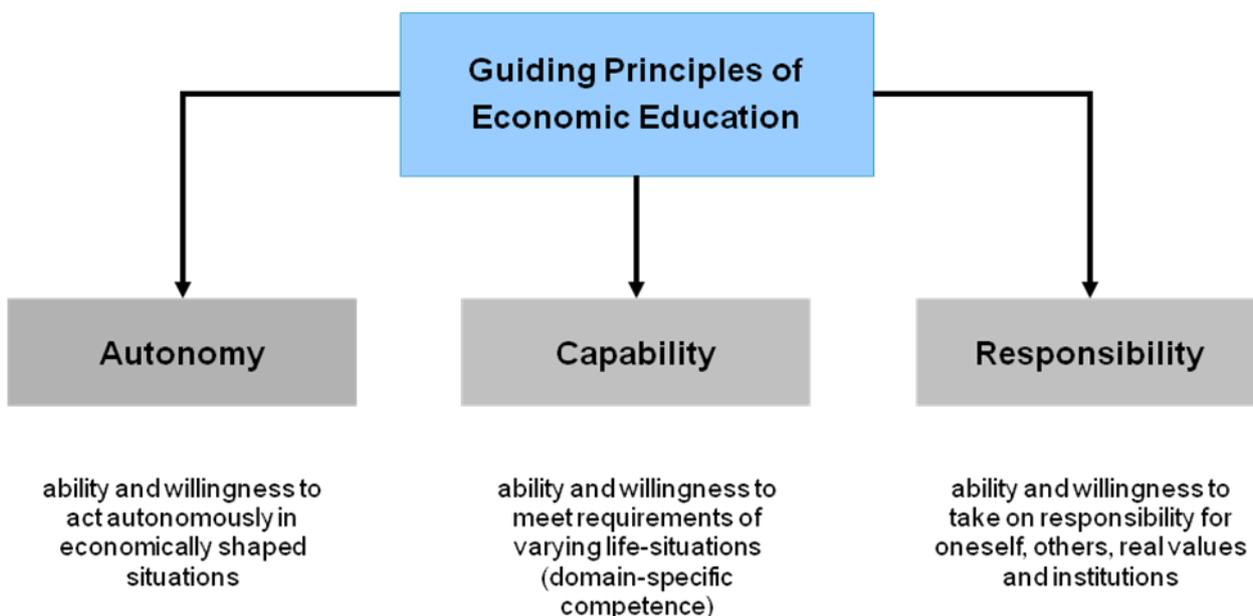


Fig. 2: Three guiding principles of economic education

2 The competence model for economic education

The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany asks for certain requirements in competence models, that have been considered in the following model.

1. The following competences of economic education are classified in *competence areas*.
2. Competences refer to a certain domain – in this case economics and economy.
3. Competences are restrained to the cognitive dimension.
4. The derivation of educational standards is guided by the assumed development of economic competences.

Competence areas of economic education

The subareas of the competence model are guided by the general educational objectives of school, according to which, students shall be empowered to take on responsibility for themselves, their contemporaries and in respect of the cause. In line with this understanding of education, the following can be inferred:

- (1) Individuals make economically motivated decisions between given alternatives while usually acting responsibly for themselves: they pursue their own legitimate interest to the best extent possible. Their personal needs, wishes and values (preferences) guide the evaluation of advantages and disadvantages of alternative actions (utility and cost). Such ability to make rational economic choices can also be used to make decisions for other – e.g. representing individuals that are temporarily or permanently unable to do so.
- (2) Economic action predominantly takes place in a social context. Each participant of economic processes engages in temporary or continuing economic relationships that seem beneficial and have an impact on others. Economically educated individuals therefore responsibly consider the interests, wishes and values of others when interacting with an economic purpose and they do not omit to consider the consequences of their action for others.
- (3) Proper analysis is a prerequisite for responsible action and judgement. This also applies to the level of system and order. For the economic domain this means that a perspective is taken, which reaches beyond the previously emphasised individual or inter-subjective perspective and understands the economy as an abstract system of aggregated actions. Economically educated individuals understand that the economic system is politically shapeable and to what extent it requires a political order.

In short, there are the following domain specific competence areas:

A: Decision and rationality (of the individual),

B: Relationship and interaction (with others),

C: Order and system (of the whole)

These different economic perspectives receive a concrete meaning, when combined with certain roles which are used in economic didactics for the differentiation of relevant life situations. Each of the roles sketched in the following represents a paradigmatic life situation. By this an open number of concrete requirements can be reduced to a matrix of a limited number of competence areas and economic roles.

At the first level of differentiation these roles are those of consumers, earners and economic citizens.

- (1) The role of the *consumer* comprises the life situations of consumers, investors, debtors and insurance holders. Differentiating these is useful, since the individuals in such roles act in different markets (goods, money/capital and insurance) and on different sides of the market (as demanders and suppli-

ers) and therefore pursue different interest (e.g. consumption, asset formation, risk provision). The implied requirements may be similar but often differ due to the specifics of the respective situation and framework.

- (2) The Earner comprises the roles of the employee and the entrepreneur. This contains an array of life situations that are specified on one hand as the economic roles of the vocational selector, the trainee, the employee and on the other as the roles of the producer, the supplier, the entrepreneur and the employer. Respective economic action partly occurs in different markets (e.g. the training and labour market) with different frameworks and with different required actions (e.g. investment in and utilisation of human capital).
- (3) The role of the *economic citizen* is made up of life situations that derive from the fact, that humans are part of a political community that supports, utilises and integrates individuals differently. The role of the transfer recipient contains life situations in which the individual benefits materially from being a member of a solidary community. The role of the taxpayer depicts life situations, in which the individual is supposed to make a material contribution to the community. As an elector, she or he votes on rules and selects representatives to form the community. As an involved citizen, she or he actively contributes to the formation of economy, society and government by participating in the community and potentially even exercising functions and positions.

The role concepts do not claim to be comprehensive but relevant. They structure today's economic life, but not the competence areas of economic education, as there are not the competences specific and exclusive to the consumer, the employee, the entrepreneur or the economic citizen. Competences are linked to the individual and not to the specific situation where they are required. Competences are therefore kept by the individual in changing situations, which differentiates them from situational qualifications. Students with a distinct economic decision-making competence can evaluate utility and cost of any alternative action in different situations, i.e. irrespective of their role. It is essentially the same competence that is merely applied to different contexts.

Crossing the economic roles with the competence areas yields a matrix, that allows to further specify the competences and in the following the educational standards. The different fields of the matrix are irrespective of the type of school and are therefore found in the standards for all types. The standards identified below take into account the developmental dimension of economic competences in regard of the consecutive steps of formal education in the different types of school in general education.

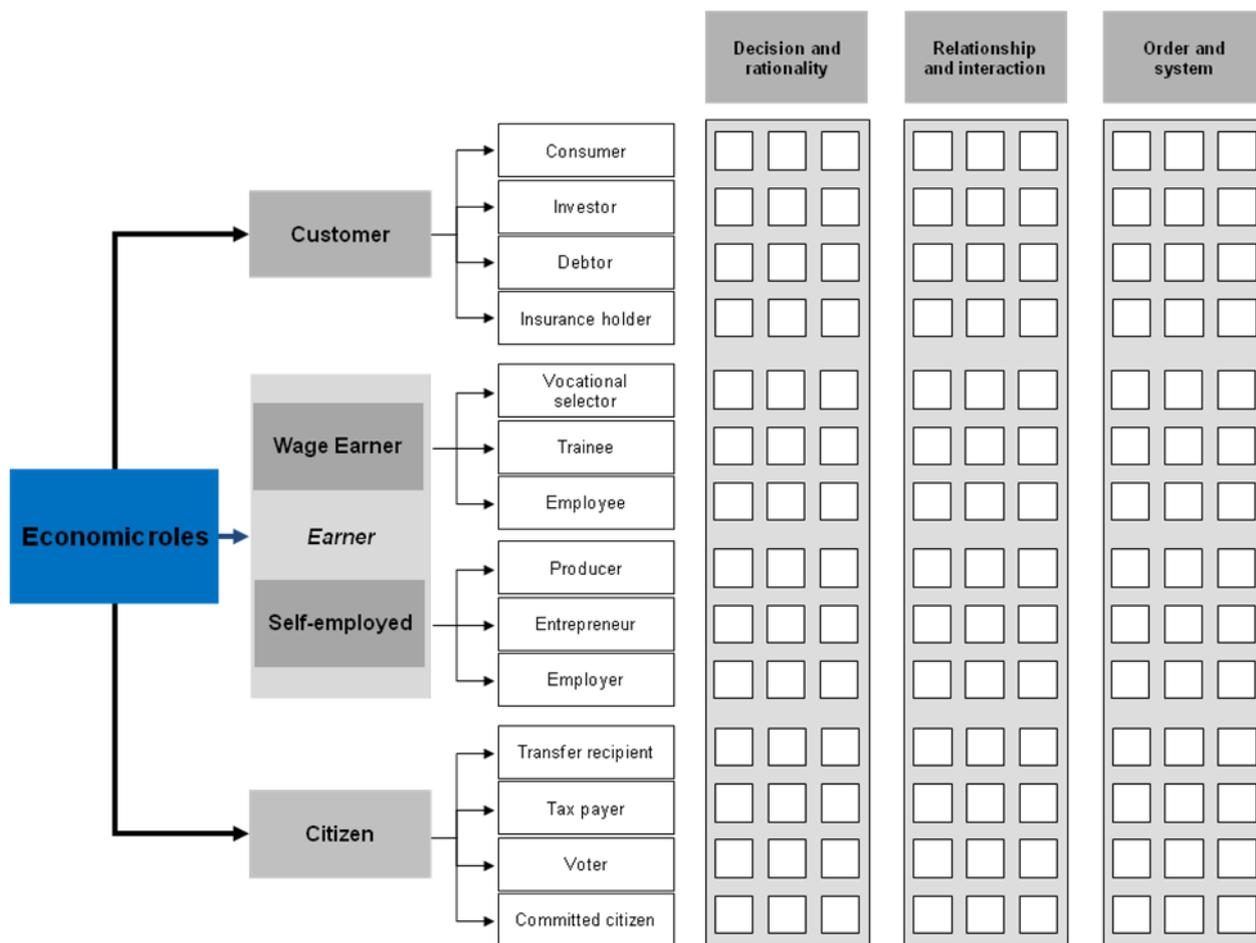


Figure 3: Competence matrix

Domain specificity of competences: What are the specifics of economics?

In order to identify a competence as domain specific, the scope of the domain has to be determined by one of the following two referencing systems: the subject matter or the perspective and methodology of the field of study.

The economic domain cannot be clearly distinguished from other social sciences through its subject matter, as these often regard the same issues. As their perspectivity is proper to different social sciences, it is appropriate to define the economic domain by the epistemological interest of economics. From this follows the perspective, from which economists perceive life situations, as well as the pertinent methods of analysis. In this way, economic education at school shows a strong connection to its most important referential science.

Only by reference to this economics as school subject can reach independency. As long as the subject matter “economics” is mainly drawn upon through related subjects at school like politics or geography in Germany or integrated in citizenship education like in Great Britain, referring to the economic perspective is the most reliable method to preserve the domain specifics. Geography or civic education may consider the same issue, but do not contribute to economic education as they lack the economic perspective and instead constitute other domains and respective competences through their own perspectives.

In the following, the improvement of the (economic) situation (e.g. of the individual, social group, society or humanity) will be considered the specific epistemological interest of economists. Their most important criterion for the evaluation of alternative actions, interactions and systems is *efficiency*. Economic education shall hence be concerned with the development of competences that empower the judging and acting individual to manage scarce resources in a better (more efficient) way, irrespective of the subject matter, to show profi-

ciency in shaping and evaluating interactions concerning their efficiency, as well as comprehend and evaluate the efficiency of the economic system.

The cognitive dimension of economic competences

Economic education comprises cognitive as well as volitional, motivational and social aspects. It is not on principle limited to knowledge of the subject but potentially requires the willingness to apply this knowledge. The competence model presented in this proposal is nevertheless limited to the cognitive dimension, as suggested by the requirements of the 'Standing Conference of the Ministers of Education and Cultural Affairs'. This limitation ensures the comparability to educational standards for other domains, which are equally focused on the cognitive dimension.

Levels of economic competence development

In order to implement the required gradation of competences in the determination of competence standards, the learner's position is differentiated into a *participant's* and an *observer's* perspective. Initially, economic life situations are supposed to be perceived from the perspective of personal experience. A second step contains the taking of other's perspective and thereby the consideration of other agents' interests. Taking a systemic observer perspective as a higher development stage then presumes the ability to aggregate a multitude of actions or construct collective agents and perceive the own decision in relation to those.

Furthermore, the increasing complexity of requirements is used for the development of graded standards in relation to the roles mentioned above. Basic knowledge is acquired in the context of the individual field of experience and builds the basis for comprehension of complex issues. Over the course of this development, students are increasingly able to use economic terminology and forms of argumentation as well as respective methodologies.

In relation to the development of concrete educational resources (including exams and tests) this developmental framework provides selection criteria. Thus for primary school consumption situations and occasional working situations should be predominantly considered; the horizon grows in secondary school to the extent, that life situations of investment, raising of credit, vocational training or formation of enterprise can be discussed. This growth is continued in upper secondary, where the objective of science propaedeutics calls for the practice in the specific methods of knowledge acquisition and hypotheses testing.

The repeated discussion of different life situations across types of school also allows a *spiral curriculum*, implementing a recursively ascending learning process gradually leading students to a higher level of economic education, which then serves as a basis for further development.

Competence areas in detail

The operators used in the specification of competence expectations (e.g. analyse, assess/evaluate and shape) refer to a describable spectrum of abilities; they do not indicate taxonomical levels. The competence areas are a factual classification and do not reflect a developmental order. The three areas can be specified into subcompetences – as shown below.

Competence areas	Subcompetences
A Decision and rationality	Students ... A 1 Analyse situations A 2 Evaluate alternative actions A 3 Shape possible actions
B Relationship and interaction	Students ... B 1 Analyse constellations of interests B 2 Analyse, evaluate and shape co-operations B 3 Analyse relationship structures
C Order and system	Students ... C 1 Analyse markets C 2 Analyse economic systems and orders C 3 Judge on politics and shape them economically

Table 1: Competence areas and subcompetences of economic education

Competence area A: Decision and Rationality

Students shall possess the competence to make a rational selection among alternative actions in economic life situations while considering the constraints of their action.

This implies the following abilities: they identify the available alternative actions and their constraints in the specific economic (decision) situation, anticipate the presumable consequences and evaluate them with respect to their preferences in order to choose the optimal alternative. In the long run, they can expand their options to act. They are willing and able to apply those abilities responsibly for themselves and as representatives for others (Table 2).

The competence requirements are domain specific prerequisites for autonomous, capable and responsible judgement and action, since *scarcity* is *the* constitutive criterion for economic situations.

Scarcity yields economizing, i.e. the attempt to solve the scarcity problem in an optimal way according to the economic principle. Economic agents determine which resources to employ to what extent and for which purpose. They do so either by rationing the invested resources to avoid the waste of scarce resources, or by optimising the invested resources to maximise the utility or wealth attained for themselves or others. Alternatively, the scarcity problem can be solved or mitigated by reducing needs, wishes and desires – in other words through relinquishment.

Economic thinking is characterised by measuring all combinations of purposes and resources in terms of *efficiency*. Economic action aims at optimising efforts in situations that are marked by scarcity of resources in relation to needs, wishes and desires. Economic situations are therefore characterised by incentives and constraints of action.

From a formal point of view, scarcity occurs whenever individuals, due to limited availability of resources, do not have sufficient resources at their unrestrained disposal in order to attain all desired goods – in other words: when they have to make selection decisions that create opportunity costs. A comprehensive term of scarcity refers to a general scarcity of resources including that of financial resources, commodities, qualifications or time.

The rationing of resources is not necessary wherever there is no scarcity, e.g. where resources are unrestrictedly available, free and attainable without effort. An image of these conditions is drawn in the fairy tale of the land of Cockaigne. However, a world without scarcity is purely fictional, since scarcity is an omnipresent

phenomenon in the real world and a successful coping with scarcity is a prerequisite of life. The better students can handle scarcity, the better – in an economic sense – they will lead their lives.

Making rational selection decisions in economic situations presumes the ability to take the economic perspective in a decision problem as well as the familiarity of students with economic life situations.

A Decision and rationality	Competence requirements
A 1 Analyse situations	Students identify situation specific objectives of economic agents (individuals and organisations) and determine their alternative actions. They analyse the factors limiting the actions.
A 2 Evaluate alternative actions	Students anticipate the consequences of alternative actions and consider their respective probabilities. They evaluate the (objective) consequences with respect to subjective criteria (preferences) and select the alternative action that is best under the given conditions.
A 3 Shape possible actions	Students analyse the alterability of constraints of action and the expandability of their own alternative actions and decision-making abilities.

Table 2: Competence requirements to make rational selection decisions

Competence area B: Relationship and Interaction

Students are supposed to describe and evaluate economic relationships with respect to diverging and converging interests. They identify and assess the significance of cooperative and conflicting relationships for the economic process.

This implies the following abilities: students analyse divergences and convergences of interests in concrete and typified social contexts, as well as analyse and shape the forms of collaborative interactions. They analyse institutions as a manifestation of behavioural expectations and understand their formation.

Since economic agency occurs within a social realm, where individuals engage in manifold relationships in order to handle scarcity situations, the ability to understand, evaluate and shape such relationships is a prerequisite for autonomous, capable and responsible action.

The modern economy is characterised by a high degree of division of labour, co-operation and exchange relationships. All economic interactions, be it in the creation or the exchange of goods, are marked by simultaneously converging and conflicting interests, both of which can be analysed with respect to their economic *efficiency*.

Within the domain of economic education, economic interactions are mainly regarded as trade that the agents involved carry out voluntarily, because they expect to generate an advantage for themselves. Social relationships are therefore modelled as trade relationships without implying that social relationships can be reduced to mere trade relationships. However this is the domain-specific form of analysis. Moreover, the own advantage is not necessarily realised at the cost of the trade partner. The exchange of goods is therefore not an economic zero-sum game.

Nevertheless, the exchange partners are taking a risk, as they have different information or powers. The better informed or more powerful partner in an economic relationship can take advantage of this position, to realise a gain at the cost of his partner. Students therefore need to be empowered to identify what advantage they can create through trade and also what advantages the trade partners may have. As prospective participants in social processes based on the division of labour they shall identify the economic advantages of co-operation. Furthermore, they shall understand why firms, employees, employers, consumers and involved

citizens gather in groups and which expectations, conflicts, opportunities and constraints are implied within the collective realisation of interests.

It shall moreover be pointed out, that the majority of daily economic interactions are alleviated by the tendency to balance the respective interest through formal or informal rules and institutions, which are formed in a lasting social economic process.

B Relationship and interaction	Competence requirements
B 1 Analyse constellations of interests	Students describe economic relationships as an exchange of goods or services for a mutually higher utility. They identify the interests involved and analyse, whether they are of converging or conflicting nature. They relate the actions of all interaction participants to their interests and evaluate the consequences of action for those involved.
B 2 Analyse, evaluate and shape co-operations	Students identify co-operations extending beyond barter as opportunities to implement common interests and identify and justify resulting advantages. They name causes of co-operation problems and demonstrate possible solutions justifying them with respect to the different interests.
B 3 Analyse relationship structures	Students analyse economic relationships with respect to their characteristic formal and informal rules and their incentive-effects. They analyse the function and historical transformation of exemplary institutions as rules and behavioural expectations.

Table 3: Competence requirements for the understanding and shaping of economic relationships and interactions

Competence area C: Order and System

Students shall identify economic interrelations as systemic effects. They evaluate government action within the order of a market economy and its consequences for individuals, various groups and society on the basis of economic knowledge and with respect to inter-linked effects and they define the fundamental principles of social market economy (e.g. freedom, social balance).

This includes the following abilities: they analyse aspects of the market system; they assess and evaluate the market system – especially social market economy – with respect to different criteria and guiding principles; they analyse the role of the government in market processes, and analyse and shape possible political actions.

The given economic system that students are confronted with creates incentives and constraints of action and connects the actions of individual agents in this way. It creates orientation through incentive structures and stabilises behavioural expectations. The historically developed market economy including its subsystems – given no aberrations – leads to an improvement in the creation of value and wealth. In order to optimally use their liberties, individuals need to know and understand the system. The bi-directional linkages between the individual involved in economic agency and the economic system need to be understood. On the basis of such understanding, individuals can contribute to the stabilisation or transformation of the present economic framework through political action.

The market as a spontaneous order of the coordination of numerous actions through price determinations is the core element of economic theory. The systemic understanding of economy yields extensive, though not comprehensive and differentiated notions about human behaviour and social processes which constitute a major contribution to the Mündigkeit, Tüchtigkeit and Verantwortung in today's society.

The issues of the previous competence areas are combined and extended in an abstract way in this area. While concrete individual actions follow a rational calculus of efficiency only to a very limited extent, the specific aggregation of countless actions yields economic structures that are characterised by efficiency. Collective agents, institutions and fundamental social and political conflicts develop into systemic elements on the basis of the general competition for scarce goods or positions.

From the point of view of the economic domain, the third competence area shows another significant aspect in referring to the socially relevant interrelation of the economic and the political system based on the different system rationalities. The domain reaches here a perspective beyond the mere efficiency orientation as the legitimation of this orientation moves into focus. The discussion of the social market economy shows that justice and economic efficiency are systemically related. The understanding of the social market economy creates the potential to participate in society and contributes to its shaping, therefore forming an essential objective of economic education.

C Order and system	Competence requirements
C 1 Analyse markets	Students explain price determination in different markets. They analyse the conditions for efficient markets and their constraints. They classify the actions of economic subjects on markets at a macro-economic level and describe the economic consequences of distributions across markets for economic subjects.
C 2 Analyse economic systems and orders	Students analyse the most important guiding principles and organising tools of economic systems and orders – primarily of social market economy – and the implied relationship between market and government. They relate economic, social and ecological effects of government action in the social market economy to each other.
C 3 Judge on politics and shape them economically	Students analyse the expected consequences of political measures in an economic system and the attainability of economic and social political objectives. They analyse the individual possibilities of action as economic citizens and evaluate them economically and with respect to the guiding principles of social market economy.

Table 4: Competence requirements for the understanding of the economic order and system

This subarea of economic competences is indubitably more complex than the other two and requires many forms of the ability to take the *observer's perspective*. Individual, collaborative or competitive actions as they are reflected upon in competence areas A and B are to be regarded in their economic and political context. And this context needs to be understood and worked upon. The examination of economic phenomena now ceases to be a reflection at the level of the *agent* and ascends to the level of the *order and system*. In order to assess as a competent economic citizen the actions of political agents or the economic significance of institutions in the sense of written and lived rules properly, a level of competence is required that is not trivial and hence needs to be delivered at school. For instance, politics, laws and other formal or informal rules are to be assessed with respect to market understanding. The cognitive act of the systemic integration of numerous actions coordinated through a market cannot be derived directly from the understanding of individual observable actions, but requires a training that shall be delivered by economic education.

The content-component of competences

The standards described in the following are performance standards and do not represent a core curriculum.

It shall be noted, that the economic specifics cannot be derived from the subject matter, but need to be developed from the specific perspective. The ability to take this perspective is an expression of economic competence. Furthermore, the mentioned roles and corresponding life situations can be the source of content standards. The integration of these standards into school teaching can not occur without discussing the different roles in an exemplary, not in an encyclopaedic way.

All agents mentioned at the first level of differentiation – consumers, earners and economic citizens – should be reflected in the contents of syllabi in order to attain a proper economic understanding. Rational decisions as the basis of economic agency, the formation of economic relationships and a systemic understanding of economics can however be developed for all elementary agents. The different economic competences can thus be developed through a discussion of exemplary life situations.

3 Standards for the competence areas of economic education by certificates

In the following, *standards* will be determined for the three competence areas and the four major steps of schooling in Germany, i.e. primary school after four years of schooling, ‘Hauptschule’ typically after nine years, ‘Mittlerer Abschluss’ typically after 10 years and ‘Abitur’, the German university diploma after 12 or 13 years. In Germany the levels of secondary education are usually related to different kinds of schools mostly starting with the 5th grade.

3.1 Educational standards for primary school

Primary school students indirectly experience the need to allocate scarce resources as members of households. They indirectly participate in the economic life through subsistence and to a certain extent directly as consumers. They further observe adults and their economic activities. These real life experiences and observations shall be reflected upon in general science instruction. They require reflection in school, since it is not the decision or its rationality that is observed but merely the resulting action – and potentially its outcome. And children shall be able to identify the rationality underlying real life actions and habits.

A Standards for the competence area ‘Decision and Rationality’

The ability to make autonomous rational selection decisions is predominantly developed through consumption situations. By the end of the primary education, pupils shall be able to make simple consumption decisions with respect to financial possibilities and after a prior comparison of suppliers and products. They optimise simple consumption decisions and shape and extend consumption possibilities. With regard to further roles and perspectives, basic concepts (e.g. self-employed and employed work) are identified.

A 1 Analyse situations

Pupils ...

- A 1.1 compare goods and services by objective characteristics (mainly price, value and quality) using product specific consumer information,
- A 1.2 compare suppliers of goods and services by objective characteristics (e.g. assortment, location, customer service),
- A 1.3 determine consumption and saving alternatives with respect to the budget,
- A 1.4 describe occupations, work places and processes in households and different firms.

A 2 Evaluate alternative actions

Pupils ...

- A 2.1 evaluate goods and services and their suppliers with respect to the needs and preferences of different individuals,
- A 2.2 allocate financial resources optimally to alternative uses,
- A 2.3 evaluate professional activities using social economic criteria and norms (e.g. requirements, work load, remuneration and prestige).

A 3 Shape possible actions

Pupils ...

- A 3.1 reflect upon experiences in the economic field and include them in their selection decisions and plans of action,
- A 3.2 develop income and expenditure related strategies to expand consumption and saving possibilities (e.g. reduce spending, increase income, prioritise),
- A 3.3 identify the influence of marketing measures on consumer decisions (e.g. with regard to rationality, emotion and spontaneity).

B Standards for the competence area 'Relationship and Interaction'

In 'general science instruction' in primary school, children acquire knowledge which also covers the formation of human coexistence. In this, economic relationships and their formation shall represent an essential element. The own experiences as consumers and in the economic behaviour within a family are again the focus of this competence area, as is the indirect experience of problems in the working environment. Drawing upon mainly personalised real life problems, they are able to identify advantages of exchanges and division of labour for all agents. They can point out, that successful co-operations are hindered by a strict pursuit of personal interests and that it may support the interaction to abide by rules.

B 1 Analyse constellations of interests

Pupils...

- B 1.1 describe the expectations and actions of the agents involved in the trade of goods or services for money (examples from the areas of consumption, saving and work),
- B 1.2 explain advantages of trade for the agents involved.

B 2 Analyse, evaluate and shape cooperations

Pupils ...

- B 2.1 evaluate advantages and disadvantages of co-operation (e.g. in the planning of a flea market, or the production of a good),
- B 2.2 expound problems of the unconditional pursuit of self-interest in economic relationships regarding consequences for trade partners and the trade transaction,
- B 2.3 discuss how simple rules of conflict resolution consider the interests of all agents involved.

B 3 Analyse relationship structures

Pupils ...

- B 3.1 discuss simple rules of allocation of goods and tasks in a family,
- B 3.2 identify the utility of contracts as binding rules for trade partners,
- B 3.3 describe the relevance of unwritten rules for actual exchange transactions (e.g. trust, norm of mutuality).

C Standards for the competence area ‘Order and System’

Systemic economic interrelations, except some basic issues, go beyond the extent of economic education that is sensible and possible in primary school. The economic system and the associated interrelations between market and government principally derive from the observer’s perspective, which – in its abstractness – is hardly accessible for primary school students. Accordingly, pertinent issues can only be taught to a limited extent and with a focus on price determination and the contradiction between individual and collective objectives. Questions of regulation e.g. with respect to justice are also accessible, particularly drawing on personal experience.

C 1 Analyse markets

Pupils ...

- C 1.1 describe simple price formation processes,
- C 1.2 describe the action of typical economic agents in exemplary form,
- C 1.3 name reasons for the inequality of income,
- C 1.4 expound the function of money in buying and selling.

C 2 Analyse economic systems and orders

Pupils ...

- C 2.1 identify simple connections and contradictions between technical, legal, social or ecological and economic factors,
- C 2.2 describe preconditions of welfare.

C 3 Judge on politics and shape them economically

Pupils ...

- C 3.1 identify options of simple actions as economic citizens,
- C 3.2 evaluate simple economic rules and interrelations from their real life environment.

3.2 Educational standards for *Hauptschule*

Students in the first stage of secondary education increasingly participate in economic processes. It is a relevant objective of the *Hauptschule* to prepare students for the transition into working life after the end of compulsory full-time education. Since there is later a possibility of being self-employed, particularly in the crafts, rational entrepreneurial decisions are to be discussed. Hence, the decision of vocational choice and the orientation towards a modern work environment are shifted into the focus of economic education. Even though students gain first insights into the largely unfamiliar working life during their education and make primary experiences through internships and part-time jobs, the upcoming decisions about one's profession and economic activities are largely made on the basis of limited personal experience.

Students now require an educational outcome that includes problem-solving skills, the execution of complete actions (planning, implementation and evaluation), simple modelling – for instance in the form of typified courses of action (e.g. labour organisation and industrial conflict), and the mathematical solution of cost-utility-analyses.

A Standards for the competence area 'Decision and Rationality'

The ability to make rational selections is most successfully developed through examples that match the mentioned conditions. Moreover, the basic ability to make consumption decisions, that has been acquired in primary needs to be expanded. Along with typical consumption decisions such as in the purchase of goods and services, decisions of provision (investment, insurance) need to be made. At the end of their ninth year of school, students are able to make decisions as consumers and employees/entrepreneurs which can be highly relevant for their life.

A 1 Analyse situations

Students ...

- A 1.1 identify possible actions and their constraints in exemplary situations of consumers and economically active individuals (employee, entrepreneur),
- A 1.2 analyse academic and professional educational paths after the first stage of secondary education (e.g. with respect to preconditions, requirements and costs),
- A 1.3 describe the determinants and economic consequences of different situations and the respective possible actions and constraints for the individual.

A 2 Evaluate alternative actions

Students ...

- A 2.1 identify microeconomic consequences of alternative actions based on simple schemata (e.g. income-expenditure-calculation, cost comparison method),
- A 2.2 assess the result of microeconomic actions in different areas with respect to simple economic criteria, rules and measures (e.g. risk, cost, profit),
- A 2.3 solve well structured decision problems using the economic principle (e.g. cost minimisation, profit maximisation).

A 3 Shape possible actions

Students ...

- A 3.1 use media and organisations to attain, process and evaluate relevant information (e.g. about products, professions, suppliers and markets),
- A 3.2 shape plans of action for a target-oriented implementation of economically motivated decisions and adjust them to changing conditions,
- A 3.3 identify and test possibilities to expand possible actions (e.g. financial or professional).

B Standards for the competence area ‘Relationship and Interaction’

The discussion of economic relationships in the work and professional environment does not simply require an understanding of the interests of exemplary agents or organisational units (such as buyer and seller, training firm and trainee, investor and bank employee etc.) but also the ability to identify possibilities to combine individual interests to group interests and to put them into action. This implies an expansion of perspective, that is not just related to group interests, but also to general social interests. These are characterised by formal rules that can support or restrain economic relationships. Students understand the actions of the partners in a trade transaction and other co-operations as being guided by individual, collective and social interests. They examine possibilities to combine these interests.

B 1 Analyse constellations of interests

Students ...

- B 1.1 describe internship relations (vocational training) and other economic life situations as an exchange for the creation of mutual utility,
- B 1.2 analyse the motives of action underlying the internship relations (vocational training) and other economic life situations and explain the potential actions of the agents involved with respect to these motives,
- B 1.3 distinguish between incorporated and non-incorporated companies and describe the interests of employees, owners and entrepreneurs,
- B 1.4 describe and analyse the economic exchange relationships of more than two partners and between natural and legal persons.

B 2 Analyse, evaluate and shape co-operations

Students ...

- B 2.1 describe managerial organisation as division of labour,
- B 2.2 explain and evaluate individual and collective possibilities and problems of collaboration using economic explanatory patterns and information from printed and electronic media,
- B 2.3 identify and assess the effects of economic co-operations on third parties.

B 3 Analyse relationship structures

Students ...

- B 3.1 describe rules of action for daily exchange relationships, using basic legal texts and other documents (e.g. contracts, tax computations), as well as their significance for the agents involved and the incentives intended and created,
- B 3.2 assess the economic significance of unwritten rules for economic relationships (e.g. trust, norm of reciprocity).

C Standards for the competence area ‘Order and System’

The transition into professional working life, that is associated with the *Hauptschulabschluss*, requires understanding of systemic economic relationships and of the role of government. The didactically guided taking of the observer’s perspective on the economic system and the selection of examples for teaching in school do not necessarily require a general approach, but can be guided by the extent to which they are useful for this stage in life. It is important to refrain from the assessment of individual situations on the basis of intentions, and to arrive at an understanding of systemically relevant aspects. This is demonstrated in the use of terminology that refers to aggregate phenomena, e.g. market, division of labour, national product. The

competence for a voting behaviour that is proper and in line with one's interests is affected by this development.

C 1 Analyse markets

Students ...

- C 1.1 describe the generation and change of the prices of exemplary goods,
- C 1.2 model basic agents and their exchange relationships (economic cycle),
- C 1.3 explain exemplary distribution effects (income and wealth),
- C 1.4 distinguish between economic sectors.

C 2 Analyse economic systems and orders

Students ...

- C 2.1 depict relevant connections and contradictions between individual technical, legal, social, ecological and economic factors,
- C 2.2 name guiding principles and significant systemic components (e.g. national insurance) of the social market economy,
- C 2.3 identify effects of government intervention on economic processes.

C 3 Judge on politics and shape them economically

Students ...

- C 3.1 evaluate basic economic rules and interrelations,
- C 3.2 explain possible actions as economic citizens,
- C 3.3 use examples to explain incentives pursued and created by economic and social political measures,
- C 3.4 identify the influence of economic interests on politics.

3.3 Educational standards for 'Mittlerer Abschluss'

The achievement of Mittlerer Abschluss, typically after 10 years of full-time schooling, is not tied to one specific type of school over all federal states in Germany. This implies that the standards identified for the *Hauptschule*, i.e. after ninth grade, are to be regarded as already attained and do not need to be reiterated in the following. The same applies to the decision of vocational choice, where students are confronted with a wide range of possibilities (e.g. vocational schools). The standards for Mittlerer Abschluss therefore are distinguished by more demanding fields of decision, than those included in the competence requirements for the *Hauptschule*. Students abstract steps of problem solving to model processes and general rules, and they use adequate forms of presentation, e.g. structural images or mathematical solutions, which can also be attained with the help of computers.

A Standards for the competence area 'Decision and Rationality'

The ability to make rational selections is advanced to a higher competence level. It is expressed in the form of new categories of analysis, evaluation criteria and solution methods that can be trained in anticipated life situations, e.g. self-employment.

A 1 Analyse situations

Students ...

- A 1.1 identify possible actions and constraints in complex decision situations of consumers and economically active individuals,
- A 1.2 identify and quantify economic opportunities and risks in complex decision situations (e.g. investment, professional life, foundation of enterprise),
- A 1.3 analyse the factors influential in economic life situations and make connections between them, also using formal representations.

A 2 Evaluate alternative actions

Students ...

- A 2.1 identify microeconomic consequences of alternative actions based on elaborate methods (e.g. cost and activity accounting),
- A 2.2 assess the results of microeconomic actions in different areas with respect to economic criteria, rules and parameters (e.g. saving ratio, return, productivity),
- A 2.3 solve decision problems that are characterised by conflicting objectives (e.g. return versus security) using formal optimisation methods,
- A 2.4 judge economic decisions with respect to unintentional short and long term side effects.

A 3 Shape possible actions

Students ...

- A 3.1 assess information relevant for decisions – considering their sources and methods of knowledge generation – for objectivity, reliability and plausibility,
- A 3.2 integrate individual plans of action into comprehensive and consistent concepts for the shaping of present and future economic life situations,
- A 3.3 anticipate economic life situations as well as life phases and derive conclusions for their present actions.

B Standards for the competence area 'Relationship and Interaction'

As also the education for Mittlerer Abschluss is to guide the majority of students into relationships of professional training and they need to make decision about their future professional career, the expectations for *Hauptschule* concerning this competence area apply here as well. An understanding of economic relation-

ships is expected beyond the perspective of the individual agent, i.e. including collective and social interests. Students understand the ways of action of the agents involved in trade and other co-operations as being led by individual, collective and social interests and they investigate possibilities to align these interests.

The fields to apply competence in economic relationships comprises all types of economic situations. The relationships of government and taxpayers, transfer recipients, entrepreneurs and founders of enterprise are therefore added. New comprehension of known fields as well as of unfamiliar economic phenomena is made accessible to students through the methodological extension of the range of requirements. They analyse economic relationships with respect to simple economic models, including for instance the tragedy of commons and moral hazard problems, in all economic relationships. Economic knowledge is transferred to new relationships (between intermediaries, principals and clients) and it includes an understanding of the different legal forms of companies and organised groups (clubs, associations).

B 1 Analyse constellations of interests

Students ...

- B 1.1 analyse exchange relationships with respect to economic criteria (e.g. efficiency, effectiveness, cost, utility, opportunity) and explain the expected actions of involved agents considering their motives,
- B 1.2 describe economic relationships with intermediaries (e.g. producer-retailer-consumer; seller-broker-buyer) with respect to the legal framework and motives,
- B 1.3 describe forms of companies and their legal organisation as well as the interests of employees, shareholders and entrepreneurs,
- B 1.4 systematise exemplary relationships of taxpayers, transfer recipients, entrepreneurs and founders of enterprise with the government while considering the respective motives.

B 2 Analyse, evaluate and shape co-operations

Students ...

- B 2.1 model the internal organisation of companies (processes and structural organisation) with respect to efficiency,
- B 2.2 analyse possible co-operations of groups of interest and of companies with respect to economic objectives,
- B 2.3 explain and evaluate individual and collective possibilities and problems of co-operation using simple economic models (e.g. tragedy of commons) and cost-utility-analyses,
- B 2.4 identify and develop solutions for conflicts in economic relationships,
- B 2.5 identify and assess effects of economic co-operations on third parties.

B 3 Analyse relationship structures

Students ...

- B 3.1 describe regulations of action for exchange relationships using basic legal texts and exemplary contracts,
- B 3.2 describe the economic significance of informal rules for economic relationships (e.g. trust, norm of reciprocity),
- B 3.3 assess incentives generated by laws as well as by written and unwritten agreements (e.g. collective labour agreement, performance based remuneration),

C Standards for the competence area ‘Order and System’

The various biographic possibilities of continuation after Mittlerer Abschluss require more generalisable competences in the competence area of economic systems including an understanding of basic forms of social order, especially property. This requires increasingly abstract and modelled descriptions of relevant interrelations as well as a growing awareness of the model-like nature of such representations. The repertoire

of methods hence contains pertinent techniques of visual representation and simple quantifications of systemic interrelations. According to the growing abstractness of considerations, it is the formal access to interrelations, and not its specific content that is relevant for the didactic arrangement, i.e. all life situations can be drawn upon with didactic justification in order to make the concepts plausible. In this way, the competence to take influence on political processes, which is proper, line with one's interests and ethically reflected, can also be ensured.

C 1 Analyse markets

Students ...

- C 1.1 describe price determination in different markets,
- C 1.2 model agents and their exchange relationships, particular in the frame of the economic cycle,
- C 1.3 explain distribution effects on the basis of competition of numerous competitors,
- C 1.4 explain the role of pioneering entrepreneurs in the creation of new markets.

C 2 Analyse economic systems and orders

Students ...

- C 2.1 describe guiding principles, systemic components of the social market economy and distinguish it from other economic orders,
- C 2.2 model connections and contradictions between individual, technical, legal, social, ecological and economic factors,
- C 2.3 describe central aspects of the European Union as an economic area and its consequences for consumers and companies.

C 3 Judge on politics and shape them economically

Students ...

- C 3.1 explain possibilities of government intervention in economic processes,
- C 3.2 evaluate economic rules and interrelations with respect to the criteria efficiency, liberty, justice and/or sustainability,
- C 3.3 evaluate their possible options of action as economic citizens in typical circumstances.

3.4 Educational standards for 'Abitur'

German Abitur concludes with the general qualification for university entrance. From this results its educational objectives, particularly being propaedeutic for academic education. The discussion of scientific contents is to make students capable of autonomously acquiring, classifying and critically evaluating new knowledge. Students acquire the ability to explain, understand and test scientific theories, methods, hypotheses and findings, and to apply them in problem solving. In upper secondary education it is most evident that economy is defined by the specific economic perspective rather than a specific subject matter. The objective is to empower students to take this perspective for an autonomous economic analysis, modelling and evaluation of any adequate issue. Compared to previous certificates, a much higher significance is given to the generalisation of problematic interrelations and their solutions, which are necessary preconditions for shaping and socially relevant actions and decisions.

A Standards for the competence area 'Decision and Rationality'

A consistent application of economic thinking in models and an understanding of associated theories are evidence of students' general ability to take the observer's perspective to economic problems. Their ability is not limited to the analysis of situations, the discovery and evaluation of alternative actions as well as the shaping of possible actions. More so, they can also test the identified solutions concerning their generalisability and can abstract rational decisions as such of prototypical economic agents. They require a scientific set of instruments, which, while unable to replace that of fundamental domain-specific higher education studies, includes relevant elements of the microeconomic modelling of household and production theory and of economic behavioural theory. The expected competences include the application of necessary mathematical instruments such as marginal analysis and expectance value.

This complex understanding does not only help to reflect upon own decisions and those of others, but also to interpret these with respect to higher structures. Moreover, students are able to identify economic explanatory approaches as being of a specific perspective, and hence limited.

A 1 Analyse situations

Students ...

- A 1.1 analyse – using formal demonstrations – the incentives, ranges and constraints of action in economic life situations,
- A 1.2 point out interrelations (e.g. causal) between different decision situations (e.g. in different roles and at different times),
- A 1.3 represent economic situations and developments in static and dynamic models.

A 2 Evaluate alternative actions

Students ...

- A 2.1 identify the presumable consequences of alternative actions and strategies with respect to time and probability (e.g. the expectancy value of damages),
- A 2.2 evaluate alternative actions and strategies with respect to economic concepts, criteria and parameters,
- A 2.3 apply systemic decision and optimisation methods to complex economic problems (e.g. marginal analyses in conflicts of objectives).

A 3 Shape possible actions

Students ...

- A 3.1 interpret information on economically relevant developments (e.g. in technology, economy, society and government) with respect to the situations of different economic agents,
- A 3.2 evaluate economic theories, hypotheses and findings using scientific criteria and potentially derive conclusions for economic action,
- A 3.3 identify the scope and capacity of economic models for the explanation of human behaviour (e.g. homo-oeconomicus-approach) in the orientation of individual action.

B Standards for the competence area ‘Relationship and Interaction’

Also the competence area relationship and interaction reflects the demands of generalisation. In this context, it is necessary to use models and specific terminology dealing with them. Economic relationships can now be captured in all relevant forms (recognisable in life situations). In the content dimension this implies a differentiation going beyond previous competence levels: relationships are not to be analysed two-dimensionally (e.g. buyer – seller) and linearly (e.g. in the case of intermediaries), but as a network. The consequences of actions are not only grasped and evaluated for the individuals involved, but also for third parties.

On principle, the interests of the agents in relationships are put into perspective: individual, collective and social interests are regarded as action motivations that need to be evaluated in their interdependence. In this way, the discussion of rules for economic relationships is enriched, as rules are now evaluated with respect to their economic function and social intention, and they are identified as modifiable.

B 1 Analyse constellations of interests

Students ...

- B 1.1 explain recurring patterns in economic relationships with basic economic terminology (e.g. satisfaction of needs, scarcity, rationality),
- B 1.2 analyse the complex combinations of interests underlying relationships and networks and explain their (potential) actions with respect to these interests,
- B 1.3 distinguish between forms of companies and their functional parts based on legal texts, and describe the interests of entrepreneurs, shareholders, employees and other stakeholders as well as their interrelations.

B 2 Analyse, evaluate and shape co-operations

Students ...

- B 2.1 know and reason different forms of corporate division of labour (e.g. forms of organisation) and of co-operation between firms,
- B 2.2 explain possibilities and problems of co-operation at the individual and collective level using economic models (e.g. economic behavioural theory, transaction costs, asymmetries of information),
- B 2.3 explicitly identify social and ecological along with economic effects of economic relationships and assess their consequences for the individuals involved as well as for third parties.

B 3 Analyse relationship structures

Students ...

- B 3.1 analyse legal texts and other written sources as regulations of trade and describe the intended incentives as well as the significance for the exchange partners,
- B 3.2 find solutions for conflicts in economic relationships and evaluate them using legal texts and other publications,

- B 3.3 systemise the incentives that are deriving from formal and informal rules and that are thus affecting economic relationships and groups of interest and make justified predictions about the reactions of the agents involved,
- B 3.4 interpret the genesis of formal regulations with respect to the pursued economic objectives and effects on the agents involved (e.g. corporate co-determination, social security).

C Standards for the competence area ‘Order and System’

The competence area order and system and its prevailing abstract observer’s perspective are particularly relevant for the Abitur level and the implied general ability to undertake Higher Education. This applies particularly to the focus on regularities and their possible mathematical formalisation as well as the propaedeutic set-up of the use of information acquisition methods. Furthermore, the differentiation between participant’s and observer’s perspective which structures economic knowledge is to become reflected. Accordingly the set of terminological instruments develops analytically and scientifically (e.g. transaction costs, elasticities).

The political dimension is differentiated into the various possibilities of practical influence and theoretical reflection, e.g. historically with respect to the co-evolution of economic, social and political order.

C 1 Analyse markets

Students ...

- C 1.1 describe price formation in different markets using formal methods,
- C 1.2 describe aggregated actions of economic agents using scientific terminology,
- C 1.3 explain market processes with respect to statistic representations and economic models,
- C 1.4 use economic models (e.g. comparative costs, effects of tariffs) to explain the development of the (international) division of labour and economic globalisation,
- C 1.5 discuss the macroeconomic relevance of entrepreneurship,
- C 1.6 describe forms and causes of market failure.

C 2 Analyse economic systems and orders

Students ...

- C 2.1 analyse economic systems and orders in comparison,
- C 2.2 discuss the guiding principles and systemic components of the social market economy with regard to conflicting objectives,
- C 2.3 discuss – in a general form and on the basis of economic behavioural theory – connections and contradictions between individual, technical, legal, social ecological and economic factors,
- C 2.4 describe forms, causes and economic consequences of government failure.

C 3 Judge on politics and shape them economically

Students ...

- C 3.1 discuss the effects of government action on economic processes and asses them with regard to specific criteria,
- C 3.2 analyse and evaluate economic rules and interrelations with respect to the criteria efficiency, liberty, justice and/or sustainability and explain their potential significance in the context of the social market economy,
- C 3.3 discuss possible actions as economic citizens and analyse their effects using current and historical examples.

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