MACROECONOMICS / MICROECONOMICS & MANAGERIAL ECONOMICS ADV.

MEMBA01

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SHMT (Stuttgart)

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MICRO AND MACRO – FAST FORWARD IN 7 CHAPTERS

Introduction

Market: Demand, Supply, Equilibrium, Prices

Market Structure

Classical and Keynesian Economics

Factors of Production

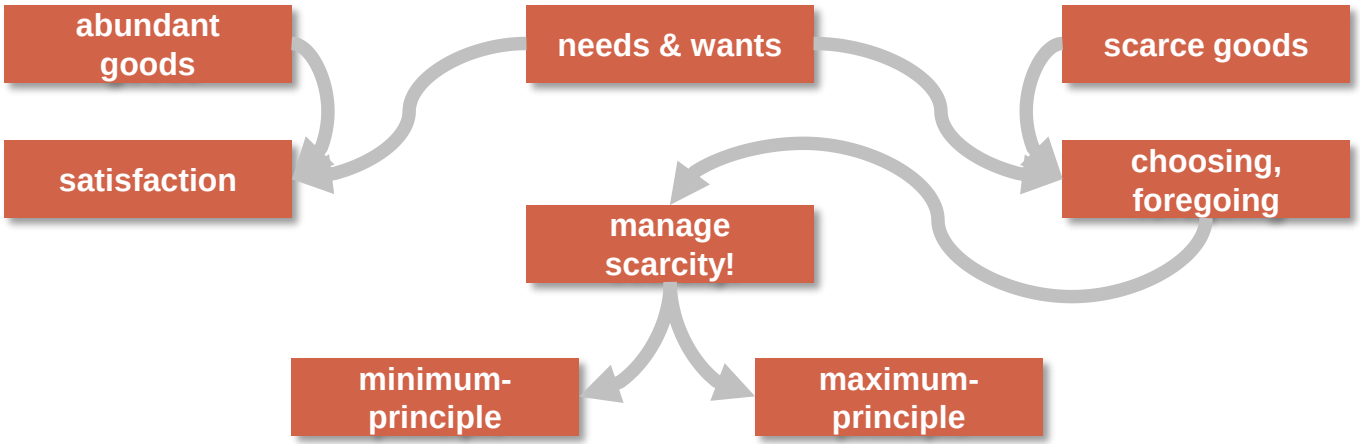
Sources of the Wealth of Nations: Division of Labour, Money

Economy in Figures

INTRODUCTION

- economics
  - macroeconomics: aggregated analysis, economy as a whole
  - microeconomics: typical behaviour of individuals and firms
- business administration
  - different set of functions to meet the organisation's goals, e.g. organisation, personnel, procurement, marketing, production, finance, controlling
  - regarding the economy as the institutional framework only

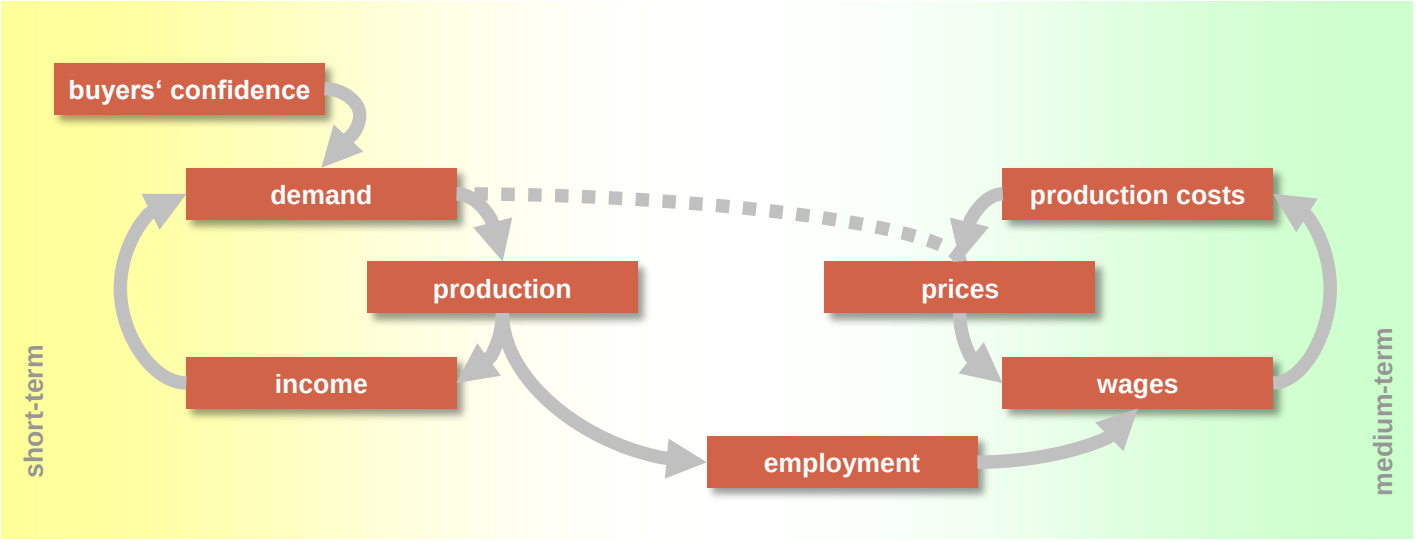
- economics: the science about the management of scarce ressources
  - the economic principle: acting as economical or as effective as possible



- managing scarcity by choosing and foregoing
  - a „homo oeconomicus“ acts rational, following the economic principle only
    - minimising input for a given output, or
    - maximising output using a given input
- however…
    - … individual behaviour is often irrational („homo irrationalis“)
    - … individuals try to achieve a high as possible output with a low as possible input
- economists do not give up the unrealistic assumption of a „homo oeconomicus“ for ease of calculation
  - maximising and minimising allows for marginal analysis by using a mathematical function and its derivatives

- economic principle and prosperity
  - prosperity of a nation can be characterised by …
    - … the supply with material goods, such as cars and houses per capita
    - … the energy consumption
    - … the supply with immaterial goods, such as education and health
    - … the degree of satisfaction: the more one need is satisfied, or the more needs are satisfied, the higher the level of prosperity
  - the economic principle provides for highest possible prosperity by …
    - … supply with material, immaterial and other scarce goods at its best
    - … satisfaction of needs and wants at its best

- secondary effects complicate economic analysis
  - short-term: increasing demand for goods and services
  - medium-term: increasing wages, production costs, and prices with negative influence on demand



- economic research
  - 1st step: observation of economic reality
  - 2nd step: modelling
    - economic models are simplifying
      - problem: reality is much too complex as to be described by simple and comprehensible models
    - improving models by less simplification
      - problem: need for sophisticated mathematics and thus less comprehensibility, but no precise image of reality anyway
    - „c.p.“-clause to reduce complexity: hold all else constant
      - developments in economy result from the development of many determinants
      - all other variables except those under immediate consideration are held constant

- economic research
  - 3rd step: verification / falsification
    - in general no experiments: testing and evaluating the model by manipulating one or more variables to generate analysable data from economic reality may be hazardous
    - 'thought experiments' preferred
    - observation of economic reality
      - interpretation of observations in light of the model
      - result: confirmation, modification or denial
  - problem: using models …
    - … makes it easier to realise basic structures and developments
    - … is because of simplification no 100% reliable way of economic research

- problems of economic research
  - general problems when using models
    - simple models are comprehensible – but far from reality
    - results are susceptible to manipulation by using ‘appropriate’ model assumptions
  - special problems in economics
    - no laws of nature in economic reality allow for many interpretations by scientists, politicians, lobbies, etc.
    - economic development is based on individual behaviour – social, psychological, and behavioural determinants can never be included and explained completely
    - secondary effects and their impact on development (time, extent)
  - conclusion: economics appears to be a not finalised science

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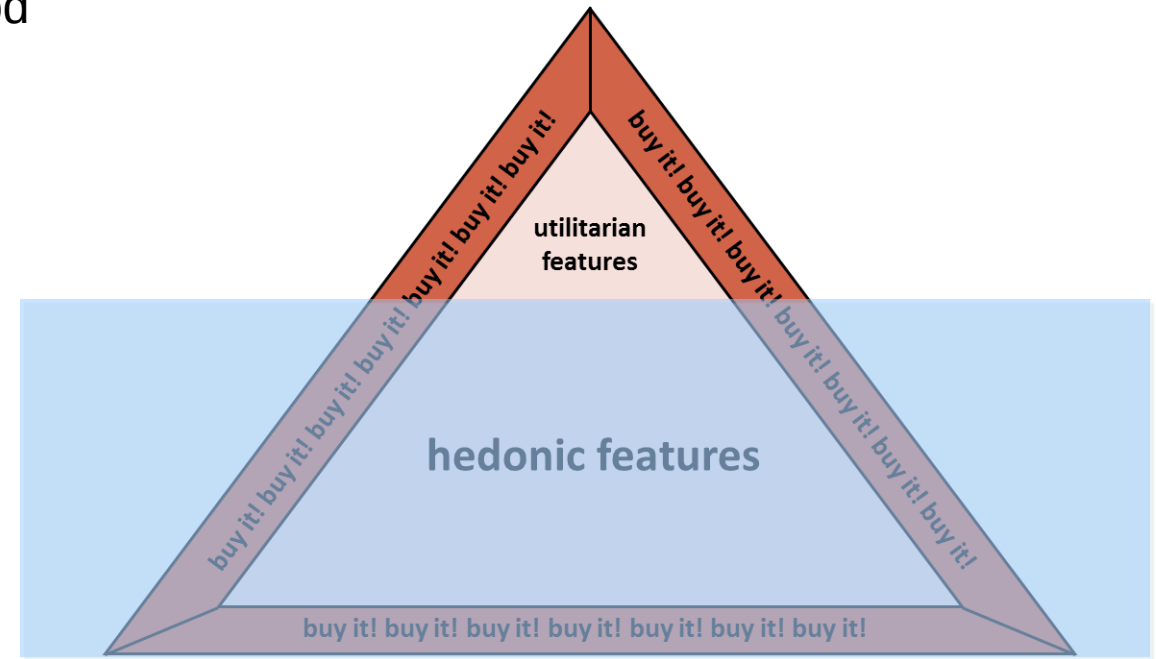
MARKET

- the ‚market' …
  - … is the prevailing model to describe and explain economic reality
  - … consists of at least two idealised participants: the producers (supply of goods and services) and the households (demand of goods and services)
  - … is the general framework to bring together supply and demand
    - market place, time, organisation, etc.
- a market is a means of matching supply and demand in terms of prices and quantities

MARKET - DEMAND

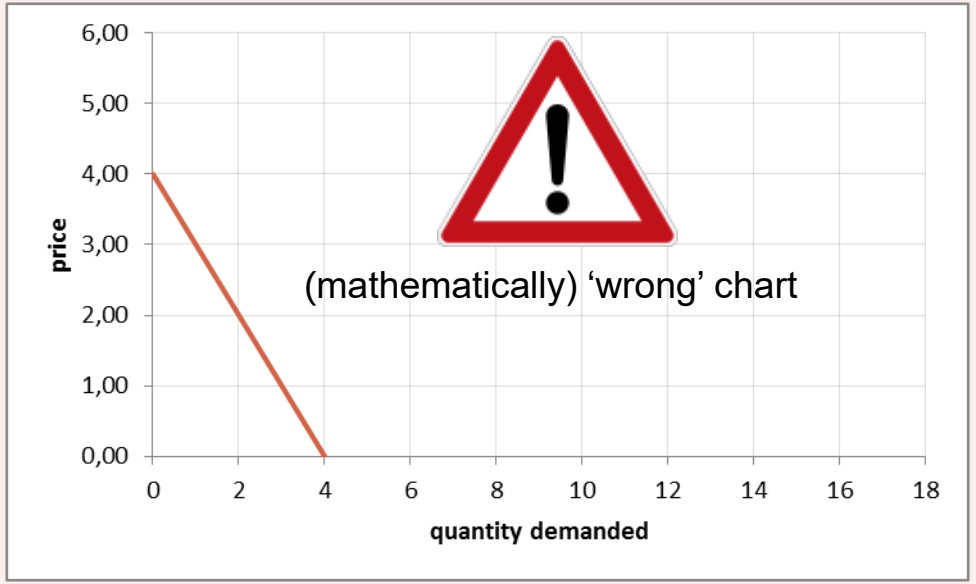
- demand = satisfaction of wants and needs = achieving utility
  - utility increases …
    - … the more a single need is satisfied
    - … the more needs are satisfied
  - dimensions of utility
    - utilitarian dimension: rational features of a consumption – fulfilling leads to satisfaction
    - hedonic dimension: aesthetic and emotional features of a consumption – fulfilling leads to pleasure and excitement

- utilitarian and hedonic features of a consumption
  - price of a specific good
  - income
  - price of related goods
  - taste
  - wealth



MARKET - DEMAND

- law of demand
  - inverse relationship between price and quantity demanded
  - demand curve with negative slope



Cindy's demand for "Beck's"							
price for "Becks" (Euro / bottle	6,00	5,00	4,00	3,00	2,00	1,00	0,00
quantity demanded (bottles)	0	0	0	1	2	3	4

MARKET - DEMAND

- effect on a firm‘s strategy
  - focus on utilitarian features, mainly the price, for boosting sales
  - establishing a low price strategy as customers prefer low prices
    - competitive advantage for cost leader
    - economies of scale and fixed cost degression lead to lower prices per unit
    - cost leadership for big companies only
    - danger of cutthroat competition

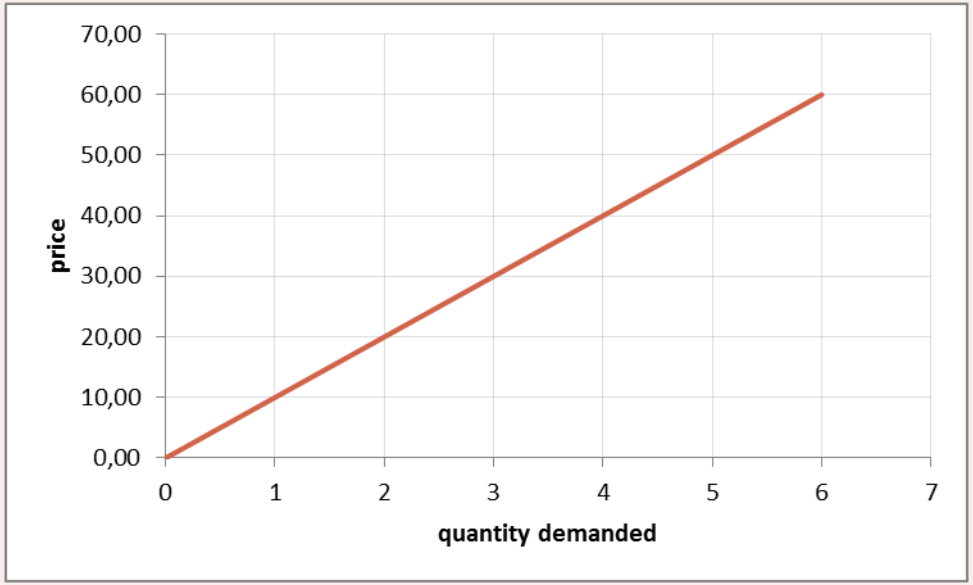
- price elasticity of demand (PEoD)
  - rate of response of quantity demanded due to a price change
    - Δx: change in quantity demanded from x_1 to x_2
    - Δp: change in price from p_1 to p_2
    - PEoD= $-(\Delta x/x_1)/(\Delta p/p_1)$
    - PEoD > 1: a price change of 1% leads to a change in quantity demanded of more than 1% (elastic demand)
    - 0< PEoD < 1: a price change of 1% leads to a change in quantity demanded of less than 1% (inelastic demand)
    - PEoD = 0: demand does not vary when the price changes (perfectly inelastic demand)
    - PEoD = ∞: infinite responsiveness of demand to a change in price, i.e. no demand at all if the price rises and infinite demand if the price falls (perfectly elastic demand)
    - PEoD = 1: unit elastic demand

MARKET - DEMAND

- impact of a price change: bargain offer or lasting price-cut?
  - bargain offers motivate impulse buyers only, no change in consumption habits
  - only lasting price-cuts have a lasting impact on consumption habits
    - an inelastic demand in the short run may alter to an elastic demand in the long run
  - basically inelastic demand for consumer durables (e.g. refrigerators) and compelling daily consumer needs (e.g. staple foods, petrol for commuters)
  - basically elastic demand for less compelling needs (e.g. education, furniture, entertainment)

MARKET - DEMAND

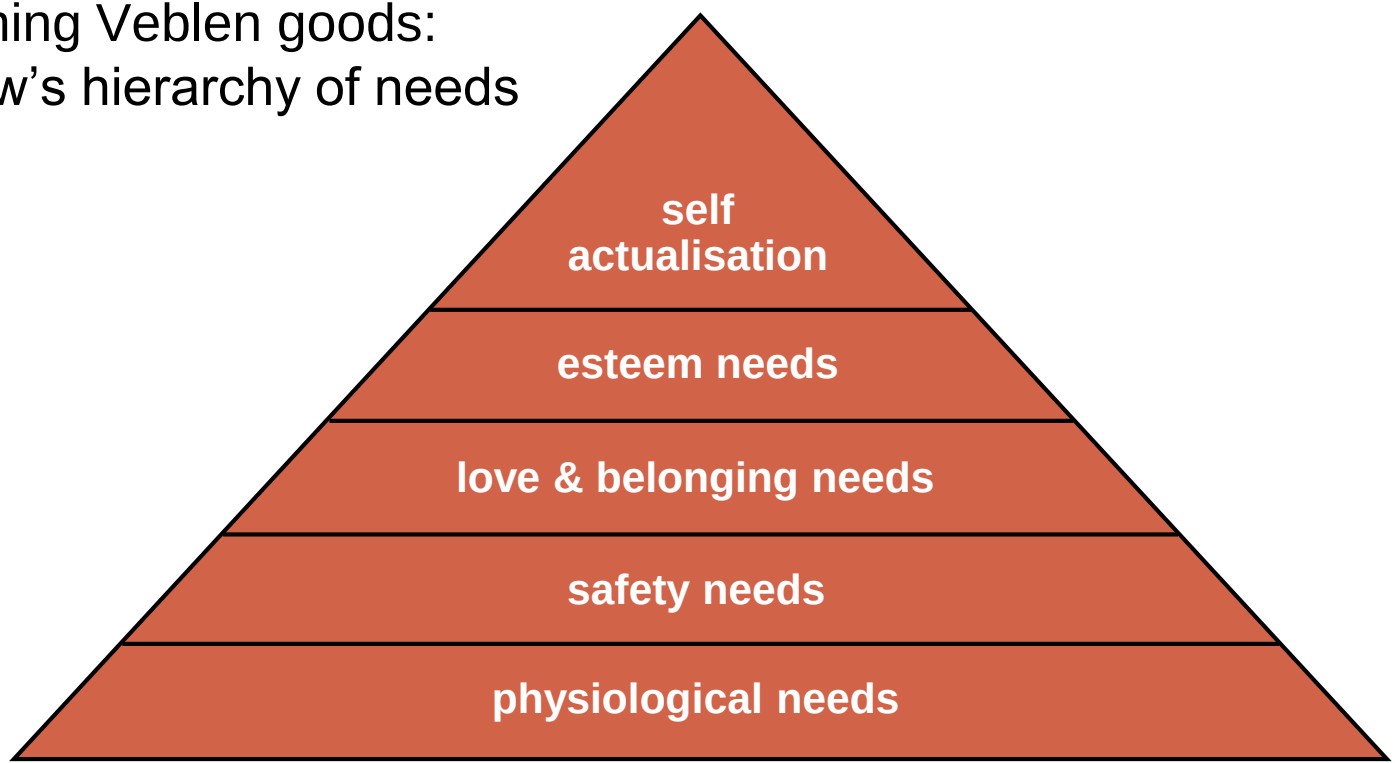
- Veblen goods and Giffen goods
  - negative slope of demand curve
  - negative PEoD



Ritchy's demand for fragrance (as 'forgive me' gift for his girlfriend)							
price for fragrance (Euro / vial)	60,00	50,00	40,00	30,00	20,00	10,00	0,00
quantity demanded (vials)	6	5	4	3	2	1	0

- Veblen goods
  - high status luxury goods
  - a rise in the price might lead to an increase in consumption, rather than reduce it (e.g. clothes, fragrance, cosmetics, sports cars)
- Giffen goods
  - low quality (inferior) staple food (e.g. bread, potatoes)
  - scenario: crisis and inflation, decrease in real income
  - the poorest in society can't afford luxuries (e.g. meat and fish) any more, replacing it by inferior goods to satisfy their needs
  - if prices increase, the quantity demanded for luxuries decrease (law of demand), causing an increase in the quantity demanded for bread and potatoes, whose prices increased too, because there are no close substitutes

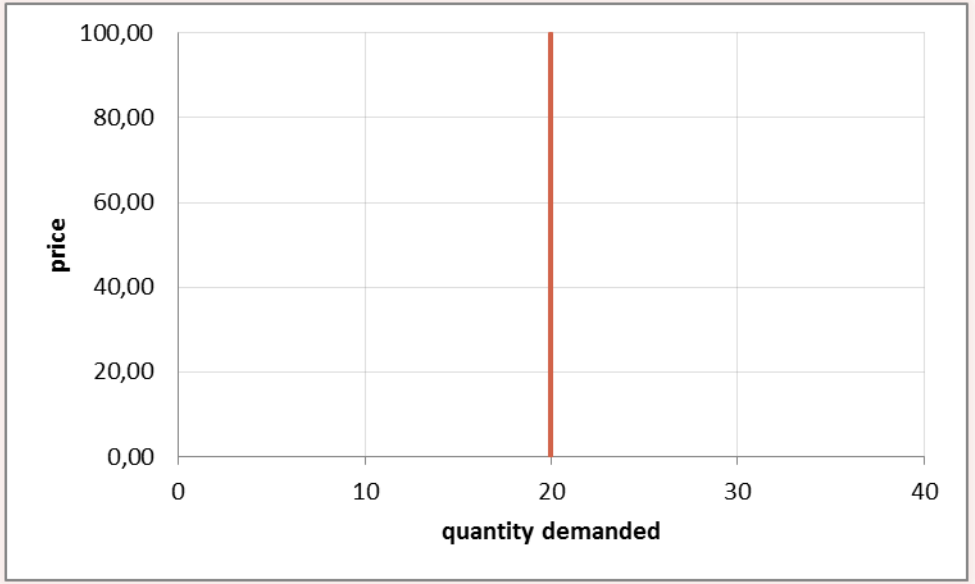
- reasoning Veblen goods: Maslow's hierarchy of needs



- marketing of Veblen goods
  - focussing on hedonic features, like brand and reputation, thus pleasing esteem needs
    - although hidden in many cases to avoid envy
  - establishing a high price strategy because consumers take prices as an assessment for quality
    - esp. if they don't have the knowledge necessary for a reasonable assessment
  - competitive advantages for strong brands
    - but: dependency on fashion trends and changing brand awareness
  - serving premium customers' needs: premium prices for premium products only
    - overall availability (loss of exclusiveness), bargain offers, and quality defects melt down reputation

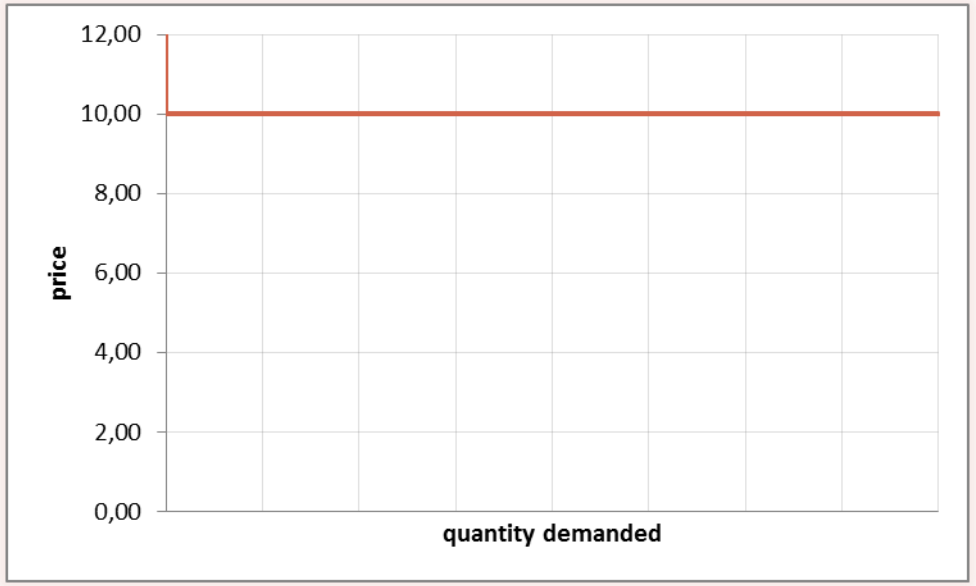
MARKET - DEMAND

- perfectly inelastic demand: any price
  - PEoD = 0, i.e. the price has no influence on the quantity demanded
    - demand curve as vertical line
    - e.g. vitally important medical treatment



demand for a vitally important pill							
price (Euro / pill)	(∞)	100,00	80,00	60,00	40,00	20,00	0,00
quantity demanded (pills)	20	20	20	20	20	20	20

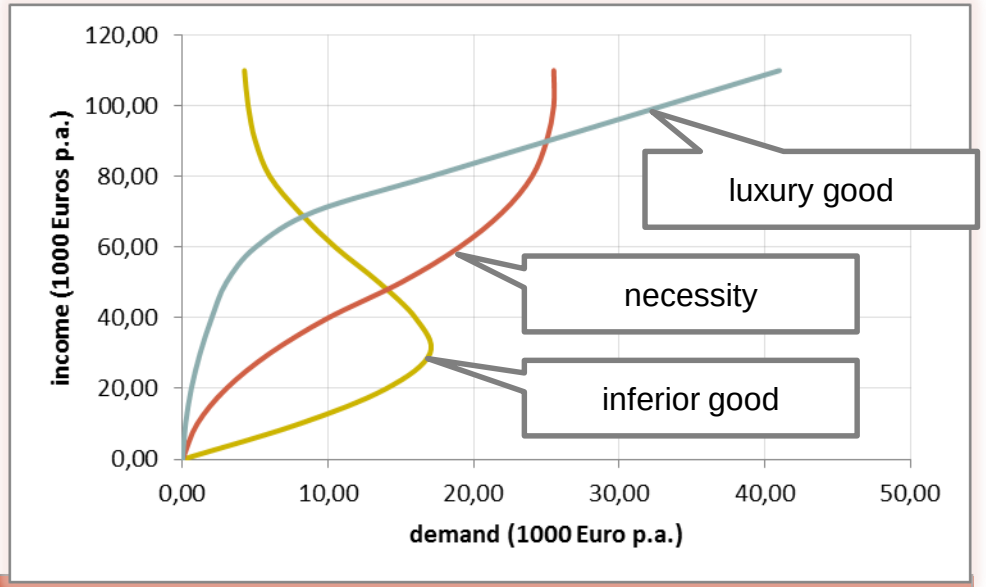
- perfectly elastic demand: one price only
  - PEoD = ∞, i.e. any change in price causes the quantity demanded to increase infinitely or to decrease to zero
    - demand curve as horizontal line
    - e.g. demand for a 10-Euro note



demand for a 10-€ banknote							
price (Euro / 10-€ note)	12,00	10,00	8,00	6,00	4,00	2,00	0,00
quantity demanded (10-€ notes)	0	> 0	(∞)	(∞)	(∞)	(∞)	(∞)

MARKET - DEMAND

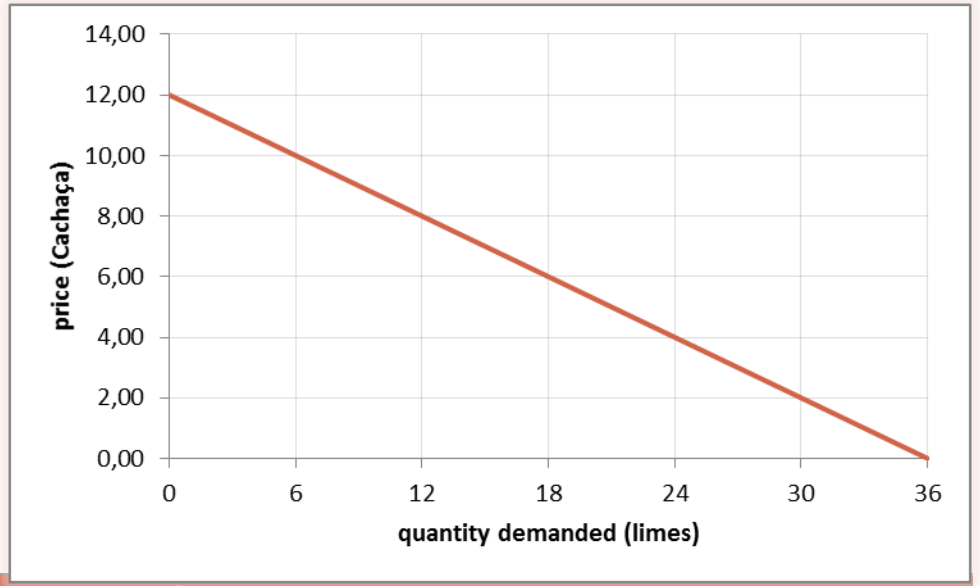
- quantity demanded and income: Engel curves
  - inferior goods
    - e.g. cheap alcohol
  - normal goods
    - necessity goods, e.g. staple food
    - luxury goods, e.g. investments, art, and collectibles



demand and income (in 1000 Euro p.a.)												
income	0,00	10,00	20,00	30,00	40,00	50,00	60,00	70,00	80,00	90,00	100,00	110,00
demand: inferior good	0,00	8,00	14,00	17,00	16,00	13,50	10,50	8,00	6,00	5,00	4,50	4,25
demand: necessity	0,00	1,00	3,00	6,00	10,00	15,00	19,00	22,00	24,00	25,00	25,50	25,50
demand: luxury good	0,00	0,20	0,60	1,20	2,00	3,00	5,00	9,00	17,00	25,00	33,00	41,00
savings	0,00	0,80	2,40	5,80	12,00	18,50	25,50	31,00	33,00	35,00	37,00	39,25

MARKET - DEMAND

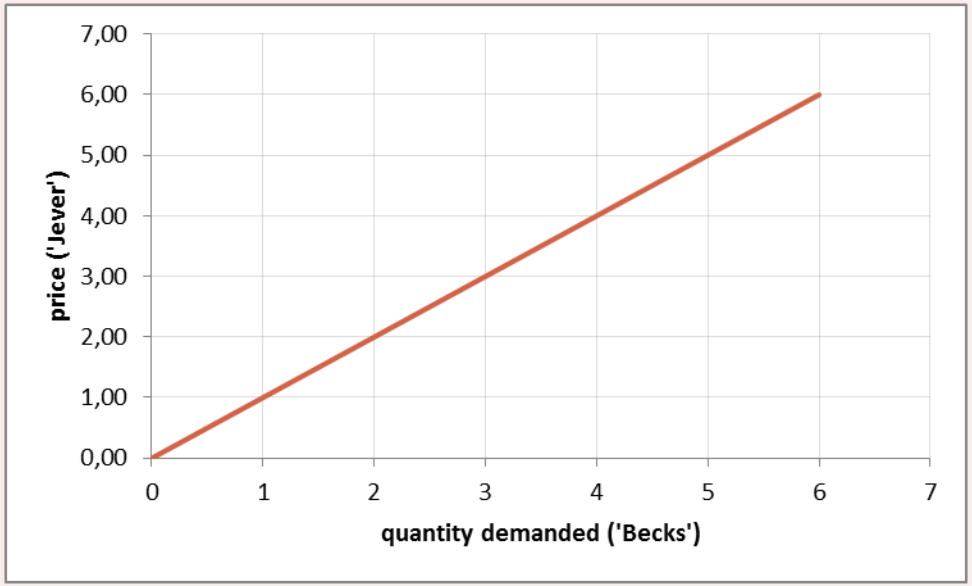
- quantity demanded and price of related goods
  - complements: goods that people tend to use together
    - e.g. Cachaça and limes (for preparing Caipirinha), or building and plot



Jenny's demand for Cachaça and limes for preparing Caipirinha							
price for Cachaça (Euro / bottle)	12,00	10,00	8,00	6,00	4,00	2,00	0,00
quantity Cachaça (bottles)	0	1	2	3	4	5	6
price for limes (Euro / fruit)	0,50	0,50	0,50	0,50	0,50	0,50	0,50
quantity limes (fruites)	0	6	12	18	24	30	36

MARKET - DEMAND

- quantity demand and price of related goods
  - substitutes: goods that people tend to replace one by the other
    - e.g. beer like Beck's and Jever, or butter and margarine

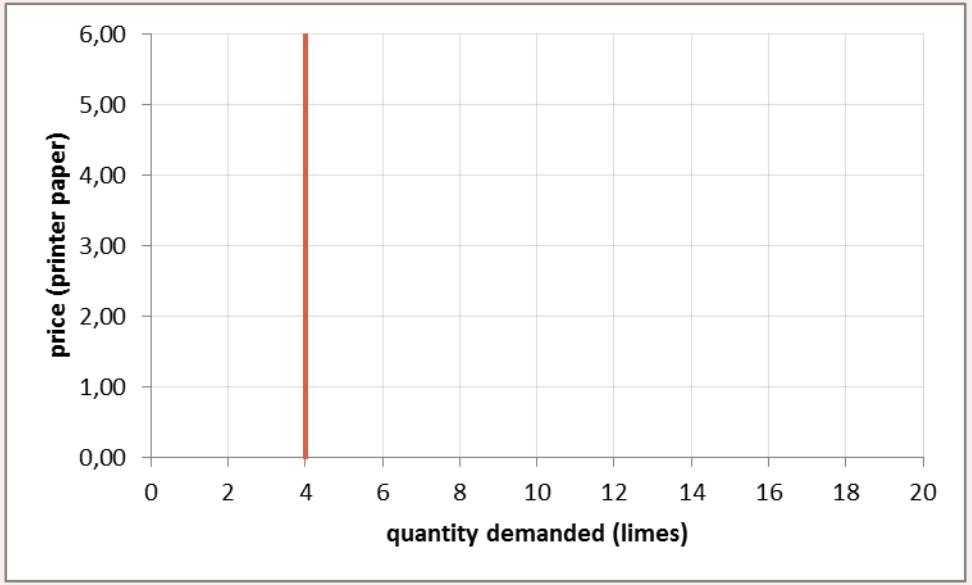


Bonzo's demand for beer (consumes 'Beck's' or 'Jever' only)							
price for 'Jever' (Euro / sixpack)	6,00	5,00	4,00	3,00	2,00	1,00	0,00
quantity 'Jever' (sixpacks)	0	1	2	3	4	5	6
quantity 'Beck's' (sixpacks)	6	5	4	3	2	1	0

- income effect vs. substitution
  - assumption: constant (nominal-) income and substitutes
  - price rises for one good, e.g. $p_{butter}\Uparrow$ ($p_{margarine}\Rightarrow$)
    - effect of substitution: substitute is relatively cheaper, thus $q_{margarine}\Uparrow$ and $q_{butter}\Downarrow$
    - income effect: real income decreases because of increasing prices, consumers adapt to the situation by reducing their overall quantity demanded, causing a decrease in quantity demanded even for the substitute, thus $q_{Margarine}\Downarrow$ und $q_{Butter}\Downarrow$
  - price falls for one good, e.g. $p_{butter}\Downarrow$ ($p_{nargarine}\Rightarrow$)
    - effect of substitution: substitute is relatively more expensive, thus $q_{Margarine}\Downarrow$ and $q_{Butter}\Uparrow$
    - income effect: real income increases because of decreasing prices, consumers again adapt to the situation, now by boosting their overall quantity demanded, causing an increase in quantity demanded even for the substitute, thus $q_{margarine}\Uparrow$ and $q_{butter}\Uparrow$

remark: p – price, q – quantitiy demanded

- unrelated goods
  - two goods that are unrelated in demand, that is neither substitutes nor complements
    - a change in price for one good has no impact on the demand for the other good
    - e.g. price for printer paper and quantity demanded for limes, or price for salt and quantity demanded for lipsticks



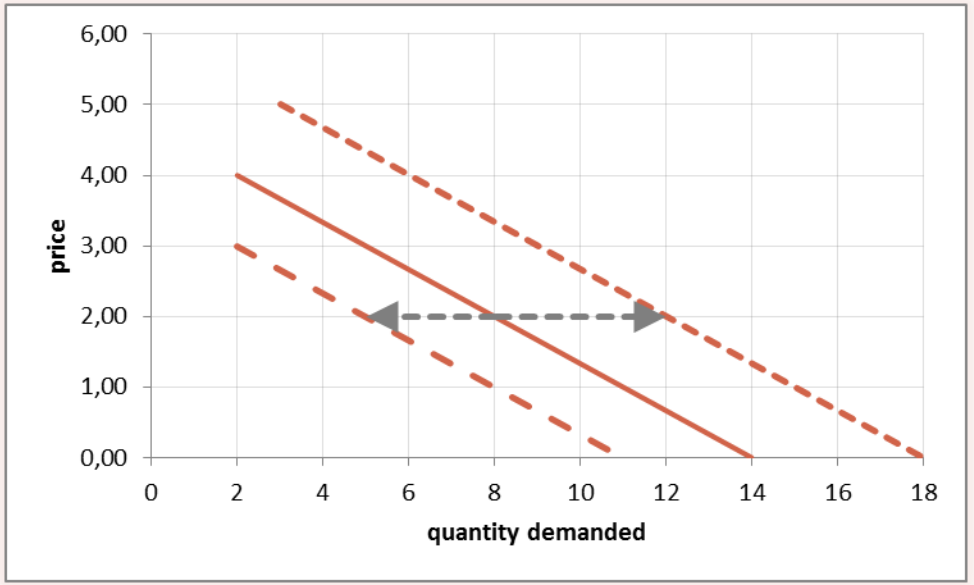
Jenny's demand for limes and the price of printer paper							
price for paper (Euro / packet)	6,00	5,00	4,00	3,00	2,00	1,00	0,00
quantity printer paper (packets)	0	1	2	3	4	5	6
quantity limes (fruits)	4	4	4	4	4	4	4

- emotional determinants of demand
  - taste
    - e.g. desire, wants, fashion, habits, and preferences
  - expectations
    - when people expect that the value of something will rise, then they demand more of it
  - socialisation
    - inherited and disseminated behaviour influences demand within a social group
  - wealth
    - wealth influences the proportion of income that is used for consumption
    - increasing importance of Veblen-goods

MARKET - DEMAND

- market demand
  - total demand within a market, calculated by summing up all individual demands
  - mainly determined by price (in general: law of demand)
- additional determinants
  - population size and its composition (e.g. male – female, young – old)
  - distribution of income and wealth
    - equitable distribution: maximum demand for necessities, minimum demand for luxury goods
    - inequitable distribution: maximum demand for luxury goods, lesser demand for necessities, lesser total demand because most of the people do not have enough money to buy things

- shifting the demand curve
  - demand curve: relationship between price and demand
  - price changes lead to movements on the demand curve
  - changes in any other determinant lead to a new demand curve
    - rightward shift: higher demand for any price
    - leftward shift: lesser demand for any price



MARKET - DEMAND

increase in demand	decrease in demand
income increases	income decreases
price for substitutes rise	price for substitutes fall
price for complements fall	price for complements rise
tastes on a higher level	tastes on a lower level
equitable distribution of income and wealth	inequitable distribution of income and wealth
increasing population	decreasing population
expectation of future increase in price	expectation of future decrease in price

MARKET - SUPPLY

- quantity supplied depends on (1.) price
  - seller's market: sellers have an advantage over buyers in price negotiations
    - e.g. when demand exceeds supply, unique technology, or buyer depends on seller
    - product pricing follows the cost-plus approach ('endogenous'): sales price = costs of the product + profit margin
  - buyer's market: buyers have an advantage over sellers in price negotiations
    - e.g. when supply exceeds demand or seller depends on buyer
    - product pricing follows the market-minus approach ('exogenous'): subtracting a profit margin from the market price and working out how to produce a good at this final target cost

- quantity supplied depends on (2.) the costs
  - fixed and variable costs
    - fixed costs do not fluctuate as output rises and falls
    - variable costs vary to changes in the level of an activity: proportional, degressive, or progressive
  - direct and indirect costs
    - direct costs are directly attributable to a cost object, i.e. a product or a service
    - indirect costs are not directly attributable to a cost object, but may typically be allocated to a cost object on some basis
  - impact of cost increases
    - seller's market: increase in sales prices
    - buyer's market: rationalisation of workflows and general productivity enhancements to decrease costs per unit, new products, new markets, or diversification

- quantity supplied depends on …
  - … (3.) prices of related goods
    - if both the prices of related goods and their profitability increase, production capacities may be shifted to raise production of these related goods, at the expense of other goods with lesser profitability
  - … (4.) conditions of production
    - supply increases with technological advancement
  - … (5.) seller's expectations of future market conditions
  - … (6.) price of inputs
    - if input prices rise, some sellers may not be willing or able to sell at any given market price

- quantity supplied depends on …
  - … (7.) number of suppliers
    - supply increases with an increasing number of producers
  - … (8.) total capacity in a market
    - if existing producers extend capacities the supply increases
  - … (9.) the suppliers' targets
    - economic targets, such as maximising profit, raising market share, reducing risk
    - non-economic targets, such as power, prestige, influence, fighting competitors
  - … (10.) government policies and regulations
    - many forms of governmental intervention
    - e.g. environmental and health regulations, hour and wage laws, taxes, electrical and natural gas rates, and zoning and land use regulations

MARKET - SUPPLY

- assumptions for developing a supply curve
  - a firm produces one good or service only (‘output’)
  - diverse production factors are summed up to ‘input’
  - no warehousing, every item of output is sold
  - the market price is fixed and suppliers are forced to go with it
    - firms are ‘price takers’
  - no changes in technology in the short run
  - firms follow one target only: maximising profits

- production function: relationship between input and output
  - Cobb-Douglas type
    - a given output can be produced with different combinations of input factors, e.g. in agriculture a given quantity of crop per hectare can be achieved by fertilisers, herbicides, pest control, and cultivation, or diverse combinations of these
    - law of diminishing marginal returns: if one production factor is increased while all other inputs are held fixed, a point will eventually be reached at which additions of the input yield progressively smaller (diminishing) increases in output
  - Leontief type
    - a given output can be produced by using one fixed combination of input factors only, as input factors are not substitutable, e.g. operating trucks, cooking recipe
    - increasing output by increasing input, unless hitting a limit in one production factor

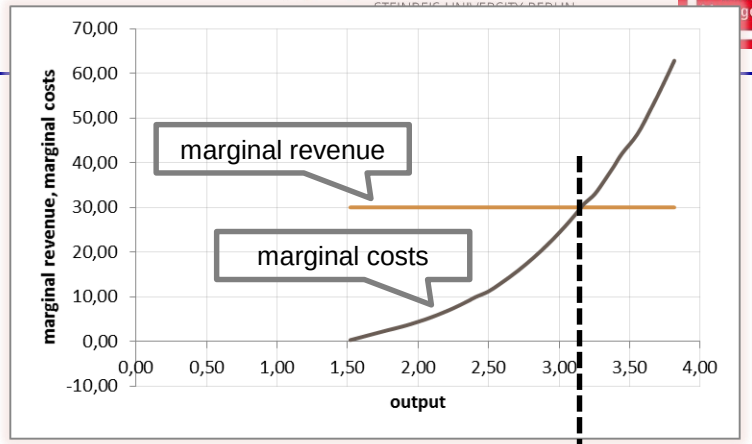
- Cobb-Douglas type

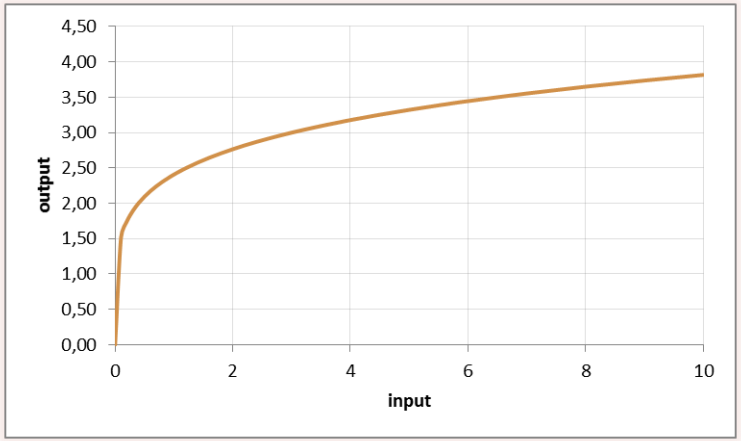
input	output q	variable costs C_{var}	fixed costs C_{fix}	total costs $C=C_{var}+C_{fix}$	revenue $R=p*q$	marginal revenue $MR=\Delta R/\Delta q$	profit $P=R-C$	marginal costs $MC=\Delta C/\Delta q$	costs per unit $c=C/q$
0	0,00	0,00	50,00	50,00	0,00	0,00	-50,00	0,00	0,00
1	2,41	5,00	50,00	55,00	72,25	30,00	17,25	2,08	22,84
2	2,77	10,00	50,00	60,00	82,99	30,00	22,99	13,96	21,69
3	3,00	15,00	50,00	65,00	90,00	30,00	25,00	21,40	21,67
4	3,18	20,00	50,00	70,00	95,33	30,00	25,33	28,14	22,03
5	3,32	25,00	50,00	75,00	99,68	30,00	24,68	34,48	22,57
6	3,45	30,00	50,00	80,00	103,38	30,00	23,38	40,52	23,21
7	3,55	35,00	50,00	85,00	106,62	30,00	21,62	46,34	23,92
8	3,65	40,00	50,00	90,00	109,51	30,00	19,51	51,98	24,66
9	3,74	45,00	50,00	95,00	112,12	30,00	17,12	57,47	25,42
10	3,82	50,00	50,00	100,00	114,50	30,00	14,50	62,83	26,20

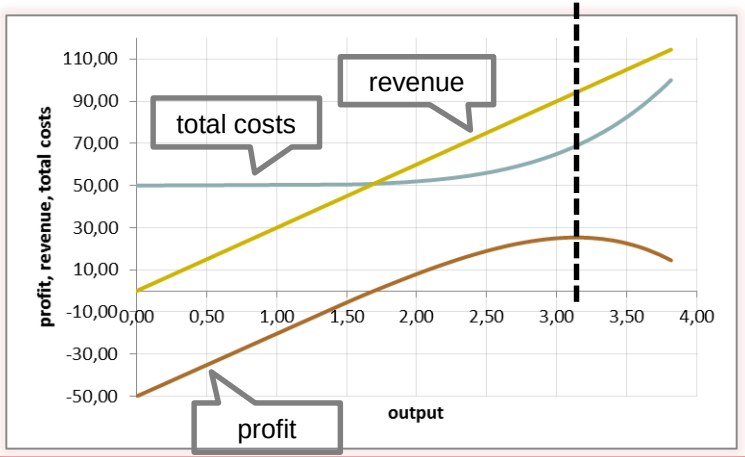
variable costs per unit input $k_{var}=5$
fixed costs per period $K_{fix}=50$
price $p=30$

MARKET - SUPPLY

- Cobb-Douglas type
  - law of diminishing marginal returns
  - maximum profit when MR = MC







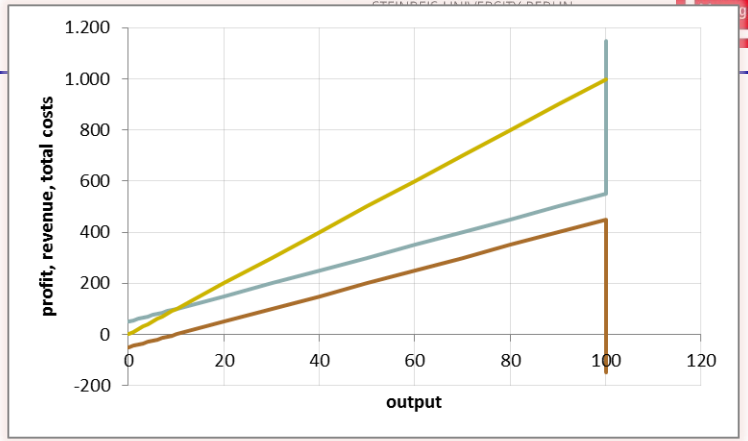
Leontief type

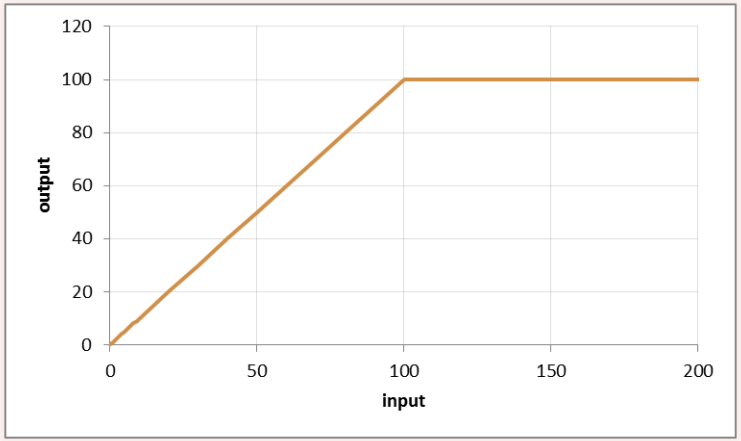
input	output q	variable costs C_{var}	fixed costs C_{fix}	total costs $C=C_{var}+C_{fix}$	revenue $R=p*q$	marginal revenue $MR=\Delta R/\Delta q$	profit $P=R-C$	marginal costs $MC=\Delta C/\Delta q$	costs per unit $c=C/q$
0	0,00	0,00	50,00	50,00	0,00	0,00	-50,00	5,00	
1	1,00	5,00	50,00	55,00	10,00	10,00	- 45,00	5,00	55,00
5	5,00	25,00	50,00	75,00	50,00	10,00	- 25,00	5,00	15,00
10	10,00	50,00	50,00	100,00	100,00	10,00	0,00	5,00	10,00
20	20,00	100,00	50,00	150,00	200,00	10,00	50,00	5,00	7,50
40	40,00	200,00	50,00	250,00	400,00	10,00	150,00	5,00	6,25
60	60,00	300,00	50,00	350,00	600,00	10,00	250,00	5,00	5,83
80	80,00	400,00	50,00	450,00	800,00	10,00	350,00	5,00	5,63
100	100,00	500,00	50,00	550,00	1 000,00	10,00	450,00	5,00	5,50
110	100,00	550,00	50,00	600,00	1 000,00	0,00	400,00	∞	6,00
120	100,00	600,00	50,00	650,00	1 000,00	0,00	350,00	∞	6,50

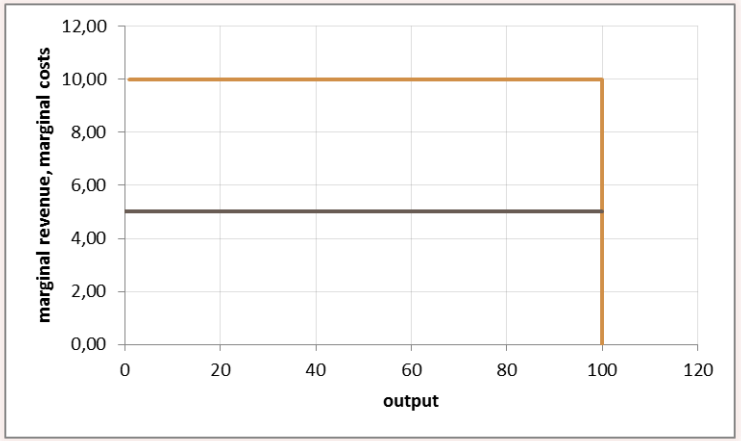
variable costs per unit input $k_{var}=5$
fixed costs per period $K_{fix}=50$
price $p=10$

MARKET - SUPPLY

- Leontief type
  - typical for automated production
  - always MR > MC, unless reaching the capacity of one production factor
    - maximum profit under full load



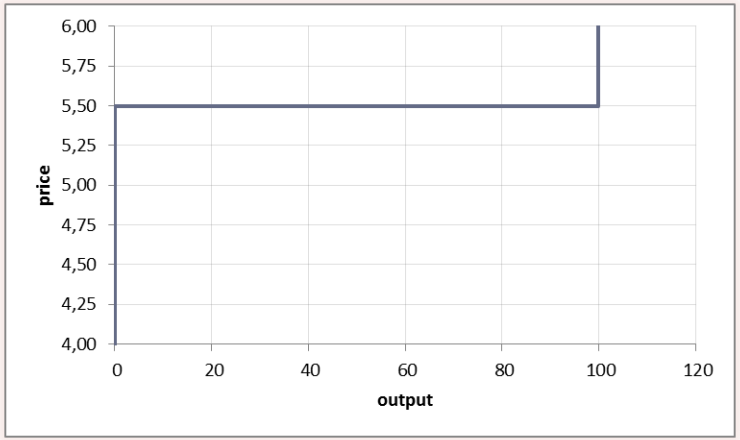




- Leontief type
  - assumption: production capacity is fixed in the short run
  - maximum profit when producing under full load
    - if, even under full load, no profit arises, any lesser quantity will worsen the situation
    - a firm, that intends to maximise profits, always produces either the full load quantity q_{cap} or nothing
  - drawing a supply curve: relationship between price p and quantity supplied q
    - revenue $R_{cap}=p*q_{cap}$
    - total costs C_{cap} (fixed, i.e. independent from price)
    - profit $P_{cap}=R_{cap}-C_{cap}$
    - producing q_{cap} as long as $P\geq 0$, i.e. as long as the price is equal or higher than the costs per unit under full load: $p\geq c_{cap}$

Leontief type: supply curve

variable costs per unit input c_{var}=5,00
fixed costs per period C_{fix}=50,00
output under full load q_{cap}=100
total costs under full load C_{cap}=550

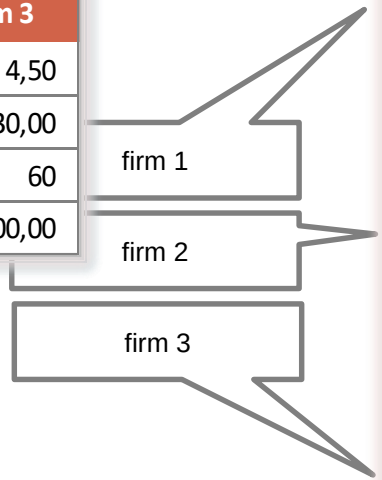


price	under full load			
	revenue	costs	profit	output (if P_{cap}≥0 only)
p	R_{cap} =p*q_{cap}	C_{cap}	P_{cap} =R_{cap}-C_{cap}	q_{cap}
4,00	400,00	550,00	- 150,00	0
4,25	425,00	550,00	- 125,00	0
4,50	450,00	550,00	- 100,00	0
4,75	475,00	550,00	- 75,00	0
5,00	500,00	550,00	- 50,00	0
5,25	525,00	550,00	- 25,00	0
5,50	550,00	550,00	0,00	100
5,75	575,00	550,00	25,00	100
6,00	600,00	550,00	50,00	100
7,00	700,00	550,00	150,00	100
8,00	800,00	550,00	250,00	100
9,00	900,00	550,00	350,00	100
10,00	1 000,00	550,00	450,00	100

MARKET - SUPPLY

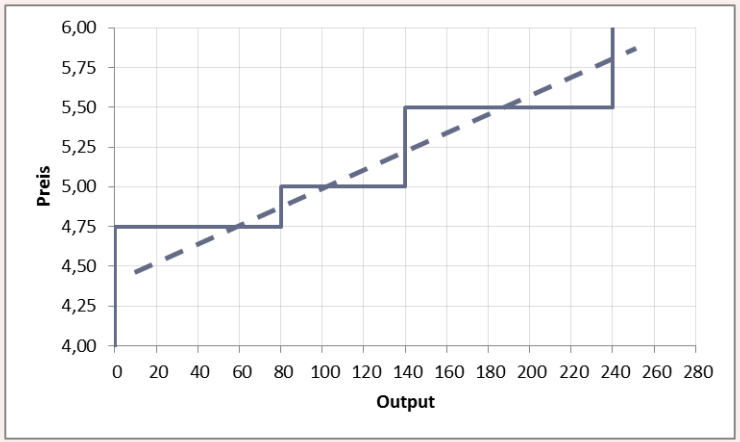
- market supply by adding up all individual supplies

	firm 1	firm 2	firm 3
c_{var}	5,00	4,00	4,50
C_{fix}	50,00	60,00	30,00
q_{cap}	100	80	60
C_{cap}	550,00	380,00	300,00



price	under full load			
	revenue	costs	profit	output (if $P_{cap} \geq 0$ only)
p	R_{cap} $=p*q_{cap}$	C_{cap}	P_{cap} $=R_{cap}-C_{cap}$	q_{cap}
4,00	400,00	550,00	- 150,00	0
4,75	475,00	550,00	- 75,00	0
5,00	500,00	550,00	- 50,00	0
5,50	550,00	550,00	0,00	100
6,00	600,00	550,00	50,00	100
4,00	320,00	380,00	- 60,00	0
4,75	380,00	380,00	0,00	80
5,00	400,00	380,00	20,00	80
5,50	440,00	380,00	60,00	80
6,00	480,00	380,00	100,00	80
4,00	240,00	300,00	- 60,00	0
4,75	285,00	300,00	- 15,00	0
5,00	300,00	300,00	0,00	60
5,50	330,00	300,00	30,00	60
6,00	360,00	300,00	60,00	60

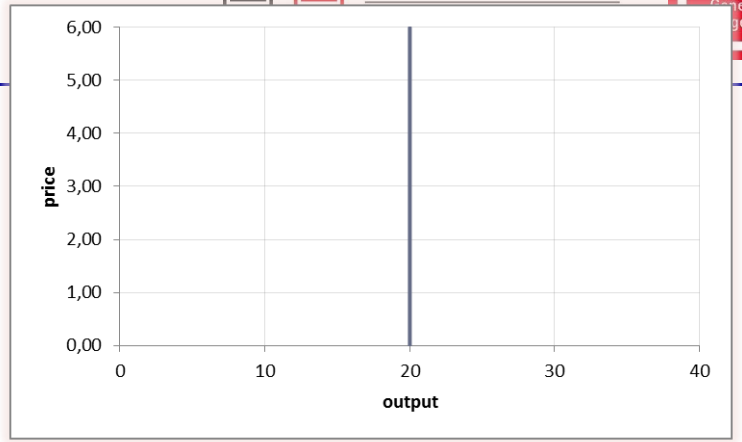
- market supply curve
  - step function by adding up all individual supply curves
  - many suppliers: approximation by a linear function resp. a line with positive slope

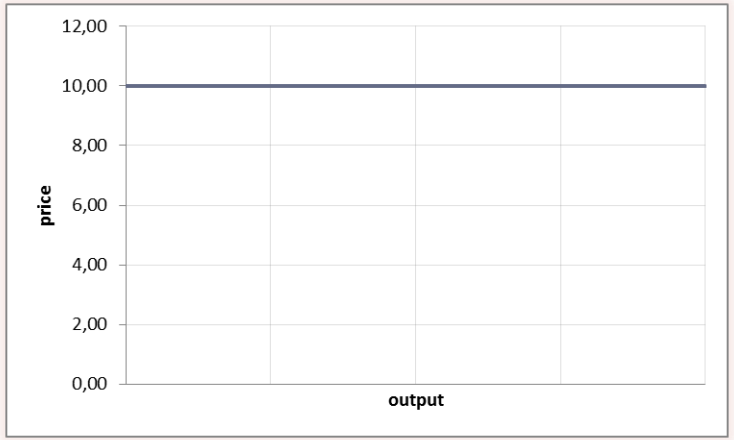


price	profit maximising output			
	firm 1	firm 2	firm 3	market output
p	q_1	q_2	q_3	$q=q_1+q_2+q_3$
4,00	0	0	0	0
4,25	0	0	0	0
4,50	0	0	0	0
4,75	0	80	0	80
5,00	0	80	60	140
5,25	0	80	60	140
5,50	100	80	60	240
5,75	100	80	60	240

MARKET - SUPPLY

- market supply and price: exceptions from supply curve with negative slope
  - vertical supply curve: selling without any regard on the price
    - e.g. closing sale
  - horizontal supply curve: one price only
    - e.g. legally fixed prices for books in Germany or price for a 10-Euro bank note

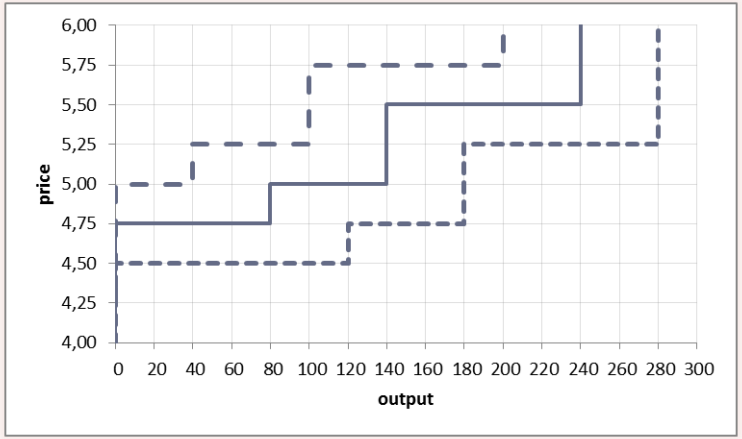




MARKET - SUPPLY

- impact of increasing price on market supply
  - Leontief type: increasing supply, because an increasing number of firms is making profits now
  - Cobb-Douglas type: increasing supply, because the profit-maximising output rises
- decreasing price lead to decreasing supply

- determinants of supply
  - price change: movement on the supply curve
  - change (c.p.) of another determinant: shifting the supply curve
    - right shift: increasing supply for any given price
    - left shift: decreasing supply for any given price



MARKET - SUPPLY

increase in supply	decrease in supply
price of related goods decrease	price of related goods increase
price of inputs decrease	price of inputs increase
increase in suppliers targets	decrease in suppliers targets
technological progress	technological setback
increasing production capacity	decreasing capacity
rising number of suppliers	falling number of suppliers
positive expectations	negative expectations
governmental promotion	governmental interference

- markets

		buyer		
		many	few	one
seller	many	polypoly e.g. food retailing monopolistic competition e.g. restaurants	buyers' oligopoly (oligopsony) e.g. dairies	monopsony e.g. army equipment
	few	oligopoly e.g. petrol stations cartel e.g. OPEC, de Beers	bilateral oligopoly e.g. high speed trains	e.g. rails
	one	monopoly e.g. water supply	e.g. wide-body double deck jets	bilateral monopoly e.g. national mint

MARKET - EQUILIBRIUM

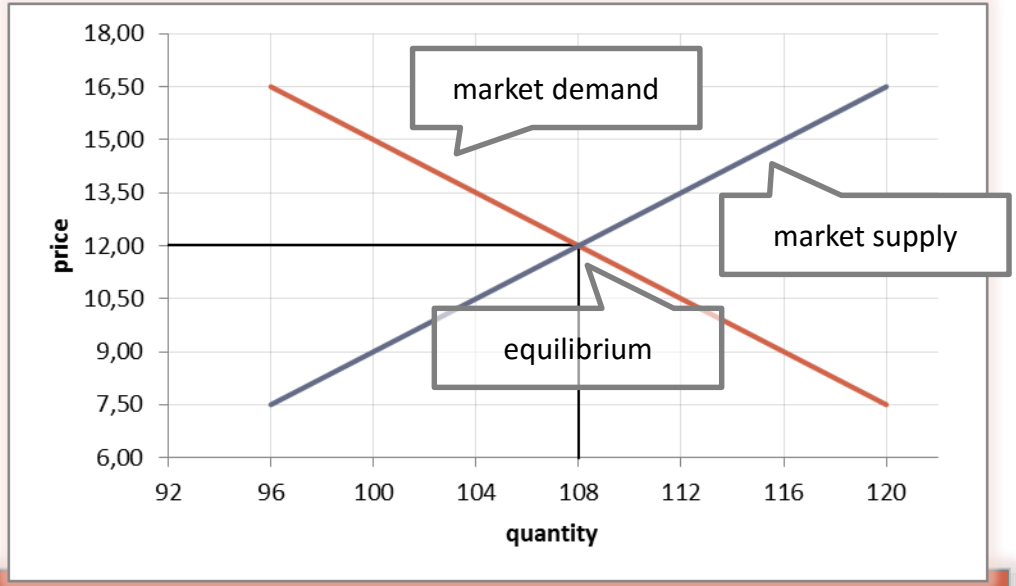
- markets
  - only a polypoly provides for perfect competition
    - prices are given by the market, no single seller or buyer can influence the market price (price taker)
    - market supply adapts to changing prices according to the market supply curve
    - market demand adapts to changing prices according to the market demand curve
  - competition is more or less restricted in oligopolies, or even not existing in monopolies, monopsonies, cartels, or monopolistic competition

- equilibrium: assumptions
  - market: polypoly
  - buyers and sellers …
    - … have perfect, freely available knowledge with no information failure or time lags at their command
    - … act according to the economic principle
    - … follow a demand curve with negative and a supply curve with positive slope
  - supply and demand curves cross
    - minimum sales price is below maximum purchase price

market for a hypothetical good							
price	0,00	2,00	4,00	6,00	8,00	10,00	12,00
quantity demanded	1 000	500	0	0	0	0	0
quantity supplied	0	0	0	250	500	750	1 000

MARKET - EQUILIBRIUM

- equilibrium
  - equilibrium price (12,00) and quantity (108)
  - clearing: quantity supplied equals quantity demanded, or everything is sold



market for beer in Germany							
average price (Euro / 10 l)	16,50	15,00	13,50	12,00	10,50	9,00	7,50
quantity demanded (l / inhabitant)	96,00	100,00	104,00	108,00	112,00	116,00	120,00
quantity supplied (l / inhabitant)	120,00	116,00	112,00	108,00	104,00	100,00	96,00

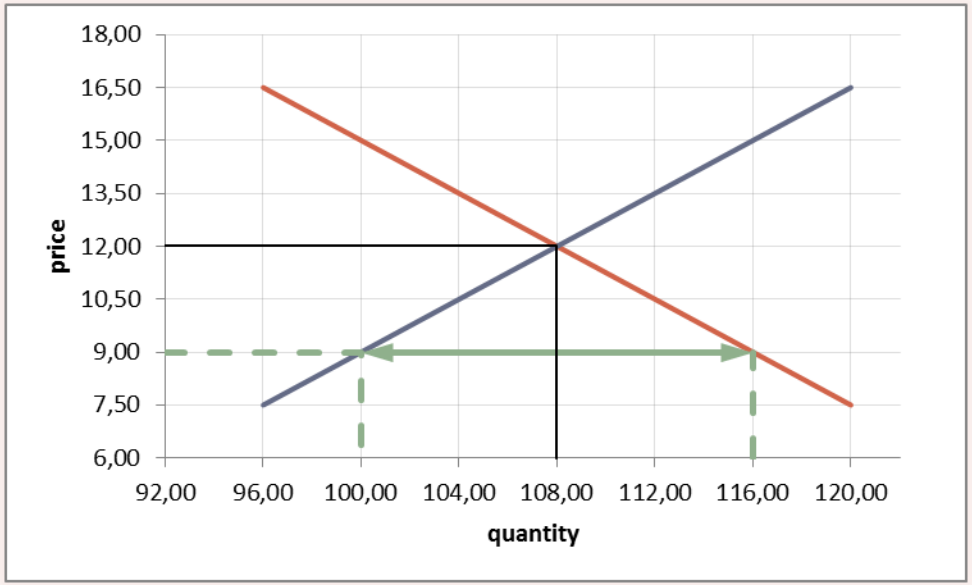
MARKET - EQUILIBRIUM

- equilibrium
  - equilibrium price: a single price which brings demand and supply into balance
    - market clearing price, because at this price the exact quantity that producers take to market will be bought by consumers, and there will be nothing ‘left over’
  - equilibrium quantity: maximum traded quantity
    - at any other price than the equilibrium price the traded quantity would be lesser
    - maximum satisfaction of needs and welfare

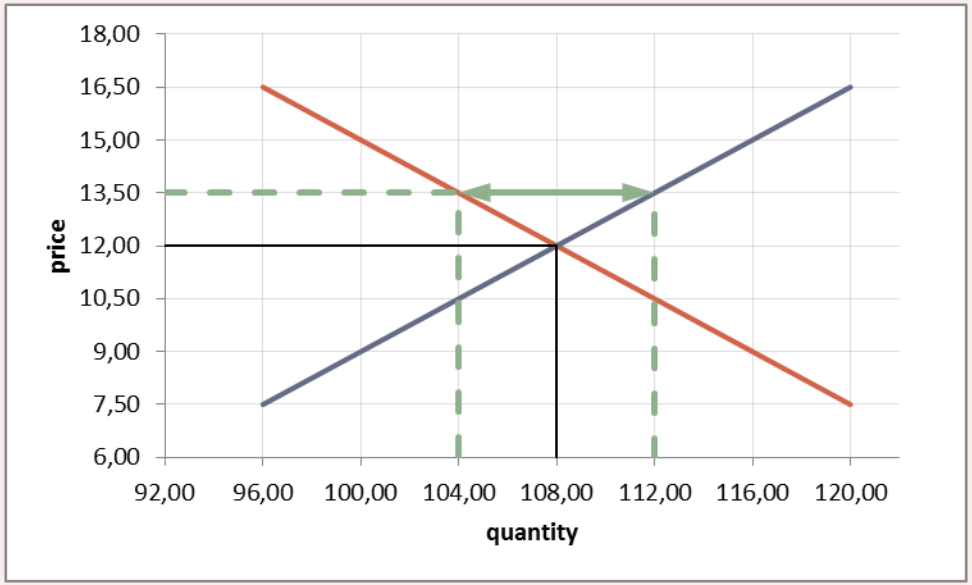
MARKET - EQUILIBRIUM

- the “invisible hand” of the market (Adam Smith, 1723 – 1790)
  - self-interest drives actors to beneficial behaviour in a case of serendipity
    - efficient methods of production are adopted to maximise profits
    - low prices are charged to maximise revenue through gain in market share by undercutting competitors
    - investors invest in those industries most urgently needed to maximize returns, and withdraw capital from those less efficient in creating value
    - all effects take place dynamically and automatically
    - the idea of trade and market exchange automatically channelling self-interest toward socially desirable ends is a central justification for the laissez-faire economic philosophy

- the invisible hand in action: price below equilibrium
  - excess of demand in the short run, causing the buyers to compete with each other
  - competition will enable suppliers to sell their rare goods at a higher price
  - increase in price leads to an increase in supply and a decrease in demand
  - result: equilibrium



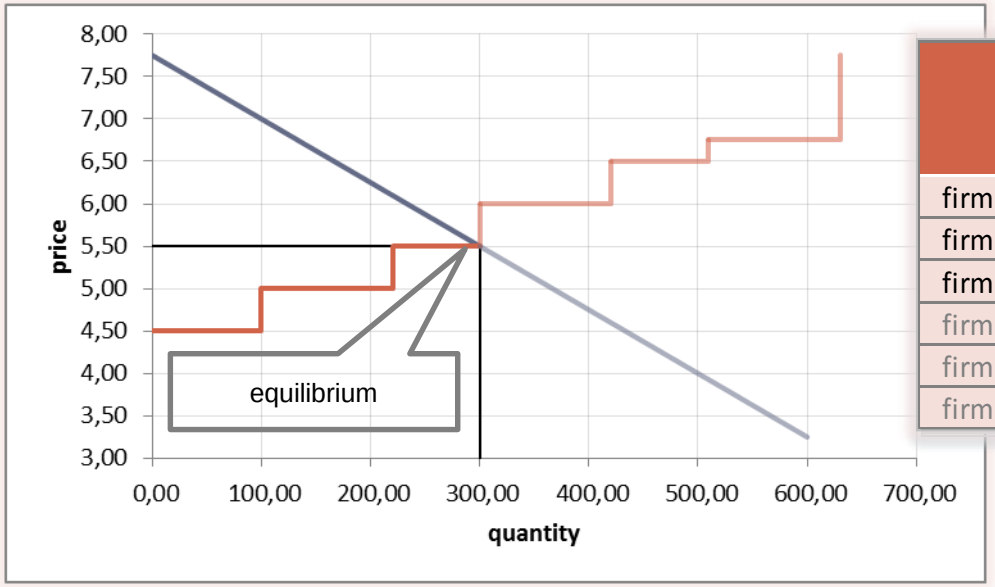
- the invisible hand in action: price above equilibrium
  - excess of supply in the short run, causing the sellers to compete with each other
  - competition will enable buyers to buy abundant goods at a reasonably lower price
  - decrease in price leads to an decrease in supply and an increase in demand
  - result: equilibrium



MARKET - EQUILIBRIUM

- the invisible hand in action: super normal profits in the short run
  - equilibrium price should not be understood as a commonly agreed price
    - some customers can't afford to buy because the equilibrium price is too high
    - some suppliers are not able to achieve any profit because the equilibrium price is too low
    - some customers fully agree with the equilibrium price as they actually pay less than they are prepared to pay, thus deriving a consumer surplus
    - suppliers realise a producer surplus, i.e. an additional profit, gained when the price they receive in the market is more than the minimum they would be prepared to supply for, receiving a reward that more than covers their costs of production
  - community surplus (economic welfare) by adding consumer and producer surplus
    - maximum economic welfare at equilibrium

- the invisible hand in action: results in the short run



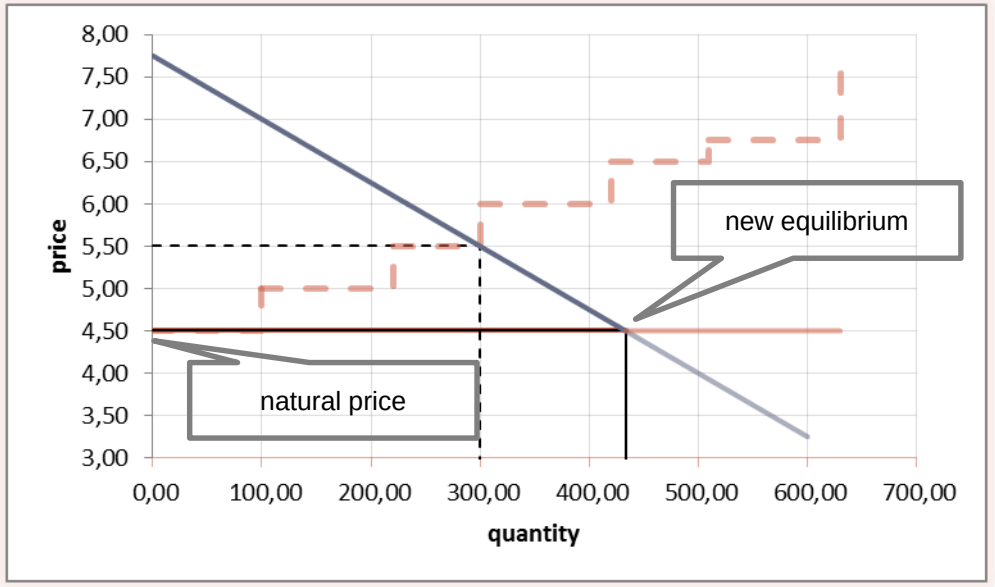
	minimum price p_{min}	capacity q_{max}	market supply $\Sigma\ q_{max}$	market demand
firm 1	4,50	100	100	433,33
firm 2	5,00	120	220	366,67
firm 3	5,50	80	300	300,00
firm 4	6,00	120	420	233,33
firm 5	6,50	90	510	166,67
firm 6	6,75	120	630	133,33

p_{min} equals the minimum total costs (merely covering the costs of production)

MARKET - EQUILIBRIUM

- the invisible hand in action: no super normal profits in the long run
  - expanding capacity
    - suppliers that achieve high profits try to boost profits by expanding production capacity
  - imitation (benchmarking)
    - suppliers that are not making profits right now imitate the cost leader
  - result of expanding and imitation
    - right shift of the supply curve: new equilibrium with lower price and higher quantity
    - every supplier faces an identical cost structure, leading to a supply curve with nearly no slope
    - new equilibrium price: natural price (Adam Smith)

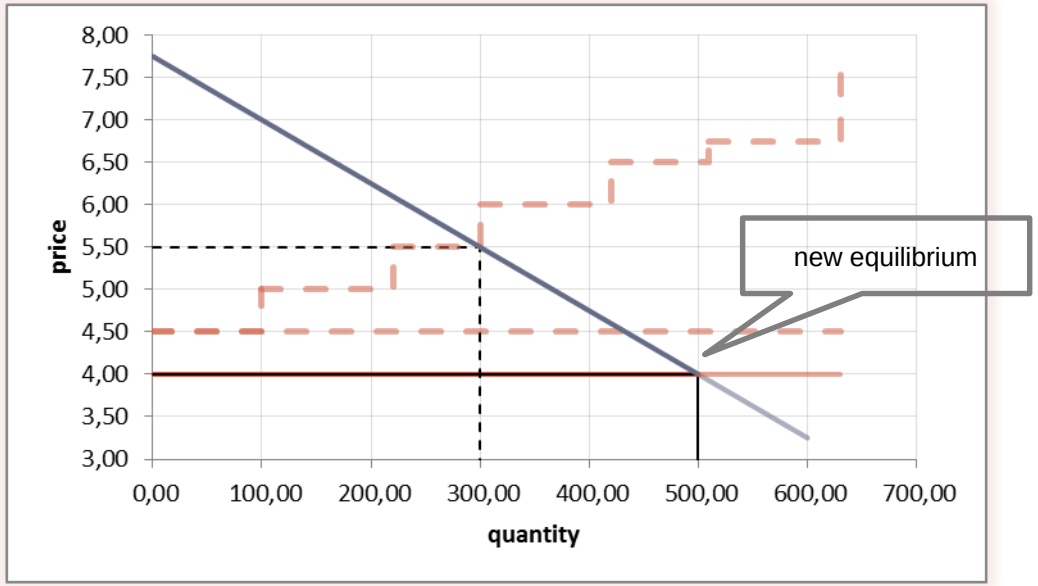
- the invisible hand in action: natural price (Adam Smith)
  - lower equilibrium price equals the cost leader's minimum price
  - higher equilibrium quantity, thus increasing production and growth
  - no supplier achieves super-normal profits



MARKET - EQUILIBRIUM

- the invisible hand in action: rewards for innovation
  - innovative products or approaches in production constitute a limited (up to imitation) monopoly or cost leadership
    - more sophisticated products, lower costs, higher profits, higher market share, and higher economies of scale
    - competition as “Entdeckungsverfahren” (Friedrich August von Hayek, 1899 - 1992)
  - result: competition stimulates innovation
    - imitation leads to a meltdown of the innovator’s super normal profits and to a further decrease in the equilibrium price
  - result: perfect competition drives progress

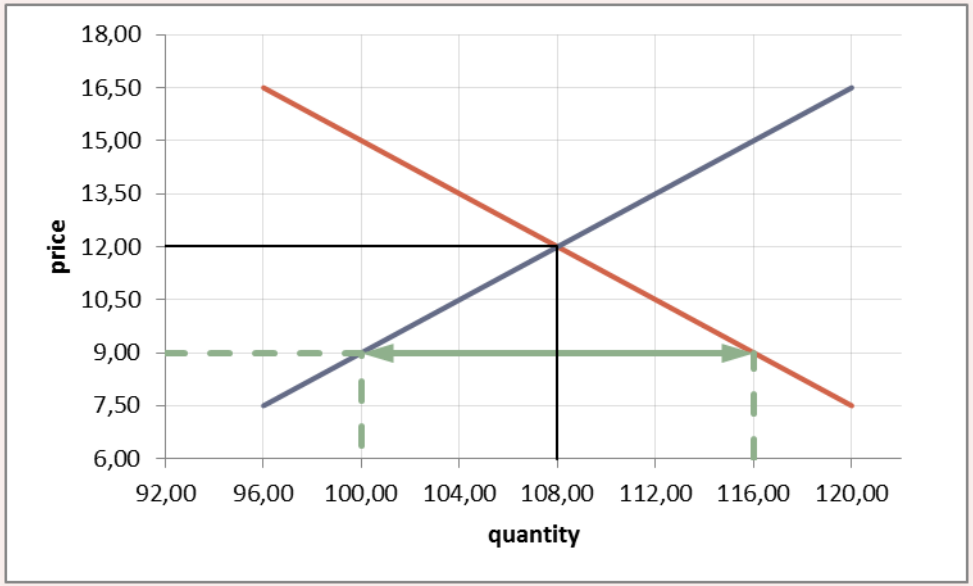
- the invisible hand in action: innovation
  - innovation, followed up by imitation and widespread sinking costs, again cause …
    - … an increase in equilibrium quantity
    - … a decrease in equilibrium price
    - … a downshift of the (horizontal) supply curve



MARKET - EQUILIBRIUM

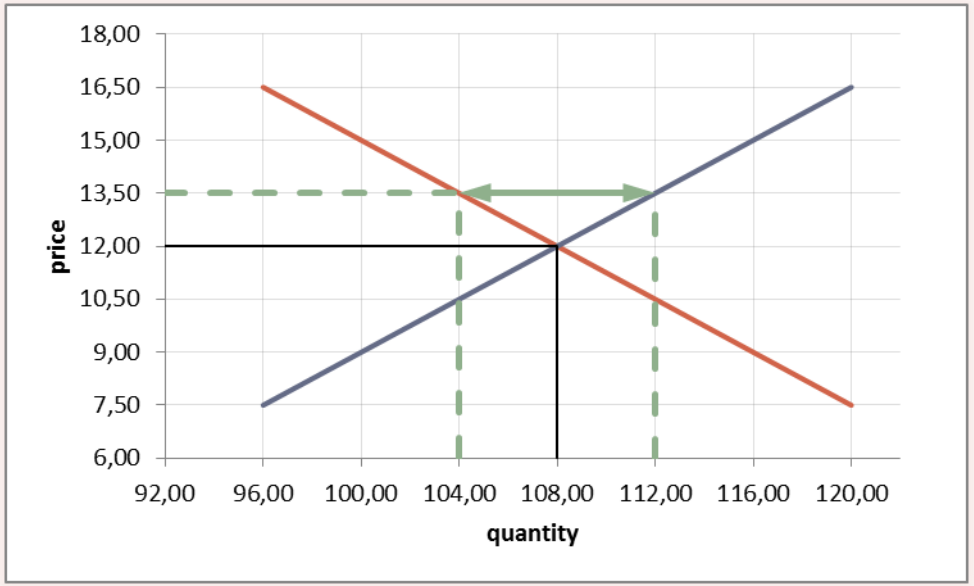
- the invisible hand in action
  - suppliers' self interest …
    - … lead to expanding capacities in the most efficient firms
    - … make them copy the cost leader's best practise
    - … cause innovative incentives
  - buyers' self interest …
    - … make them shop as cheap as possible, thus rewarding the most efficient suppliers
  - shifting supply curve cause good deflation
    - lower equilibrium price and economic growth

- market intervention: legally set maximum price
  - no consequences if maximum price is above equilibrium price
  - else: no equilibrium
    - excess demand by rising demand and falling supply
    - upcoming black markets
  - consumer protection intended



MARKET - EQUILIBRIUM

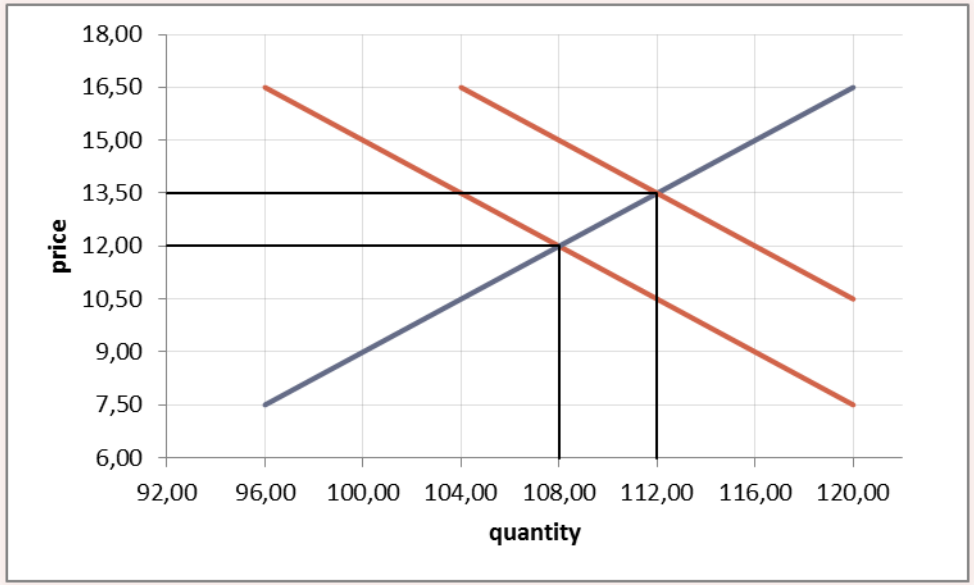
- market intervention: legally set minimum price
  - no consequences if equilibrium price is above minimum price
  - else: no equilibrium
    - excess supply by rising supply and falling demand
    - clearing authority needed to buy the exceeding production
    - legally limited quantities
  - producer protection intended



- laws of supply and demand
  - shifts of supply or demand curve and their impact on equilibrium

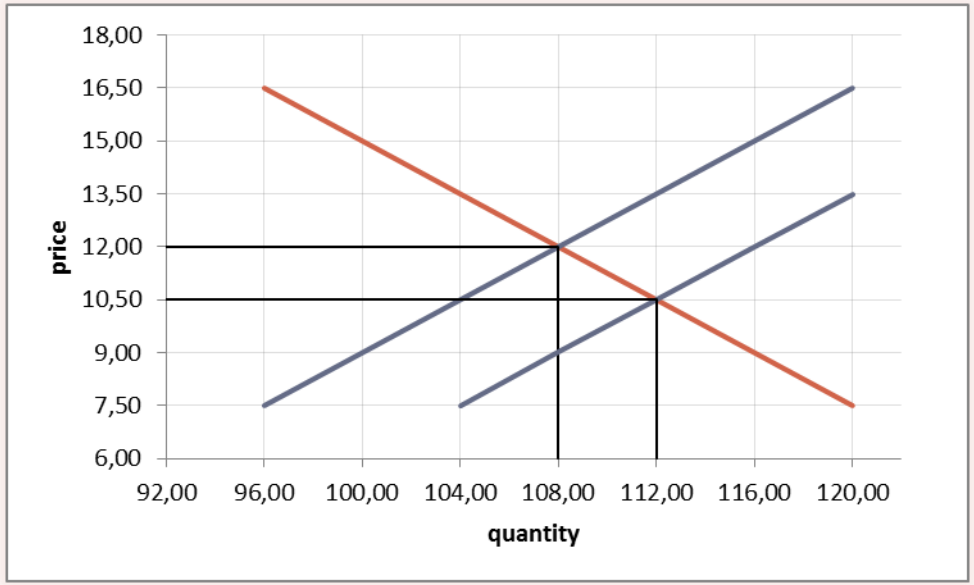
influence on equilibrium (c.p.)	excess	price	quantity	interpretation
increasing demand (right shift)	excess demand	rise	rise	inflationary growth
decreasing demand (left shift)	excess supply	fall	fall	bad deflation
increasing supply (right shift)	excess supply	fall	rise	good deflation
decreasing supply (left shift)	excess demand	rise	fall	stagflation

- laws of supply and demand
  - shifting the demand curve

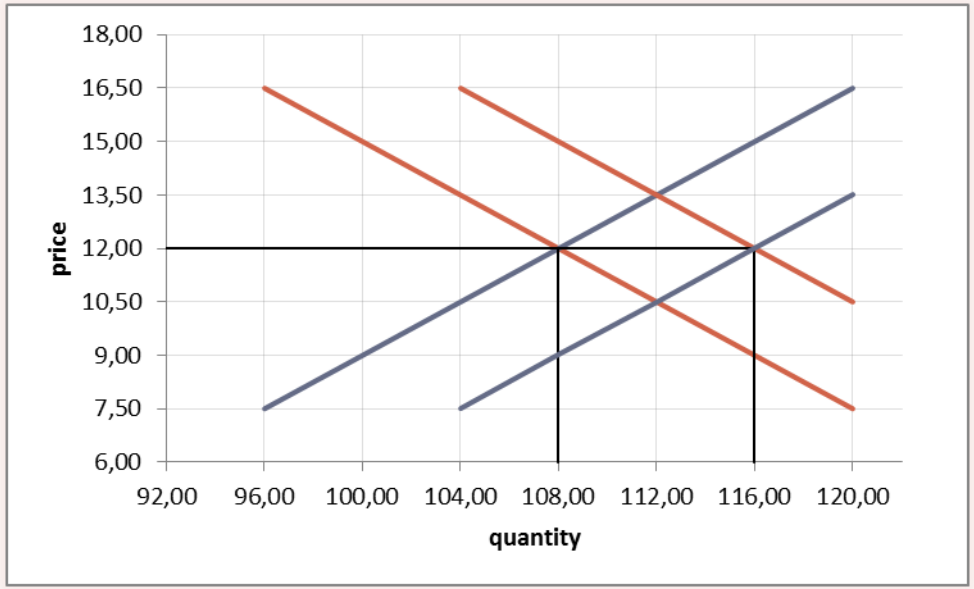


MARKET - EQUILIBRIUM

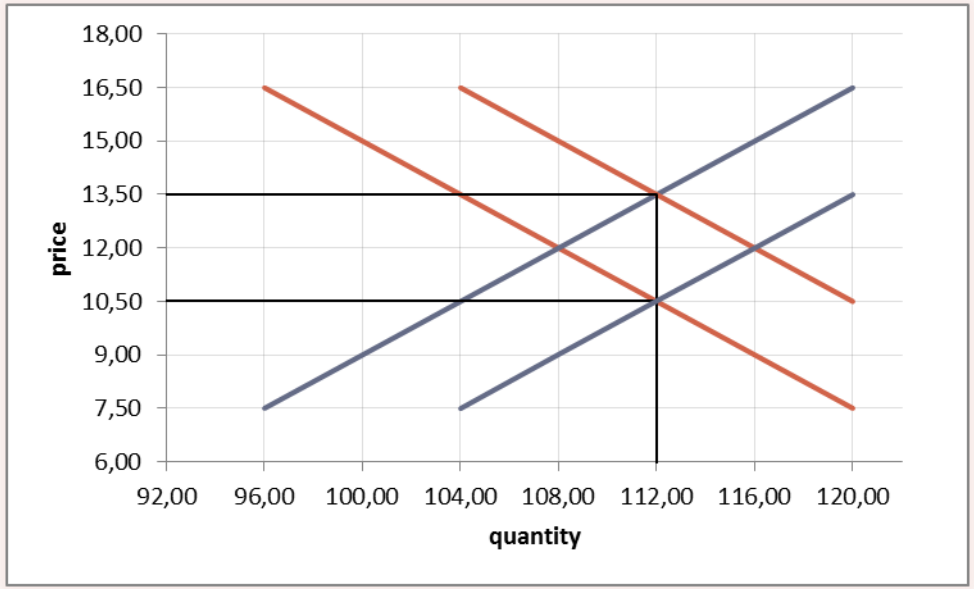
- laws of supply and demand
  - shifting the supply curve



- laws of supply and demand
  - shifting supply and demand curve in the same direction

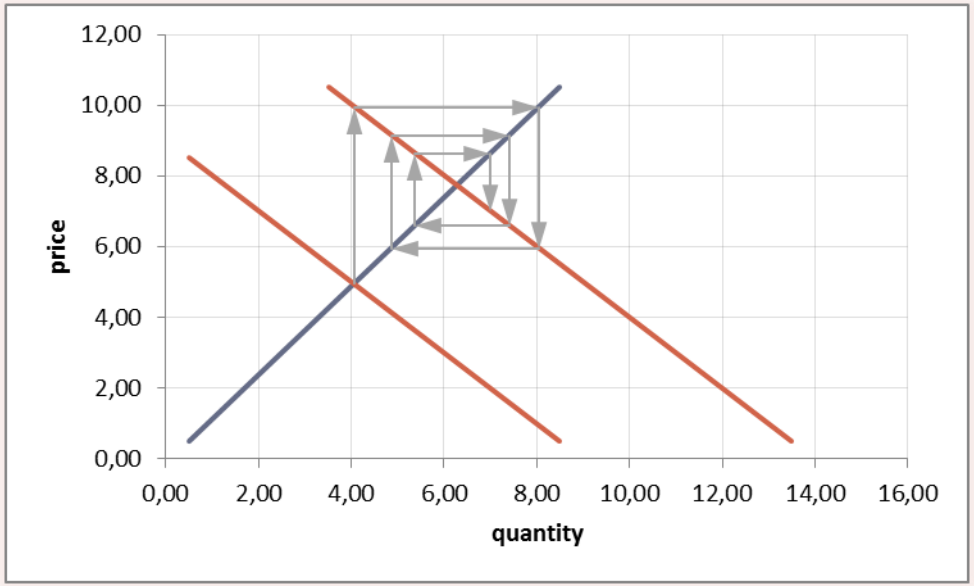


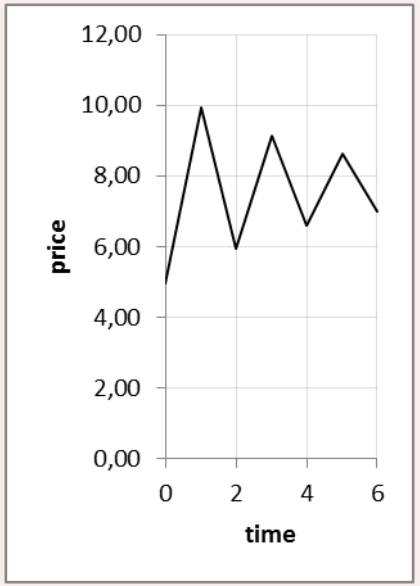
- laws of supply and demand
  - shifting supply and demand curve in opposite directions



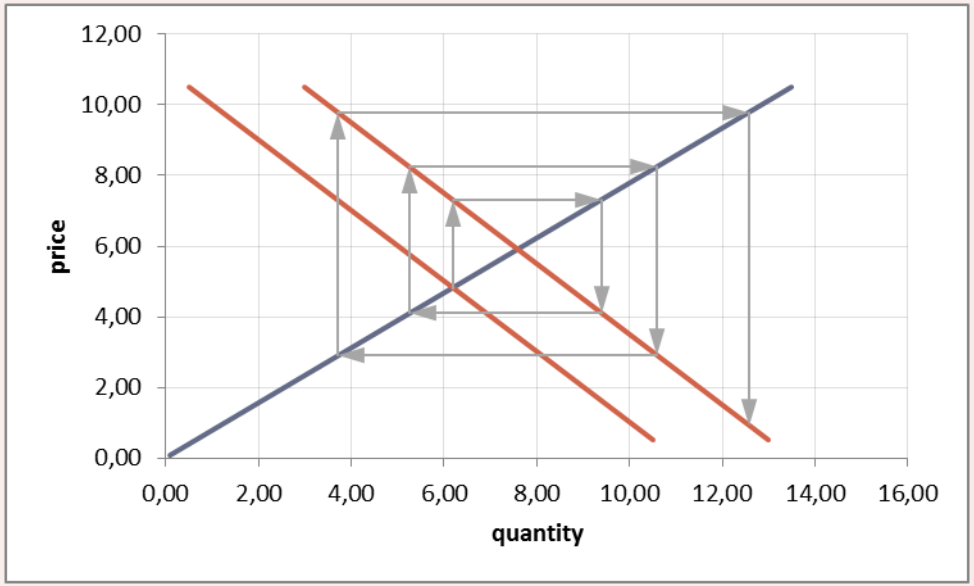
- cobweb model: time lag between supply and demand decisions
  - increasing demand (right shift of the demand curve) let the price leave equilibrium level
    - assumption: market clearing, no warehousing
  - supply and demand react differently
    - buyers take the current price to decide about buying or not and react immediately
    - sellers react with a time lag of one period on changes in price, having adaptive expectations about future development based on the current price

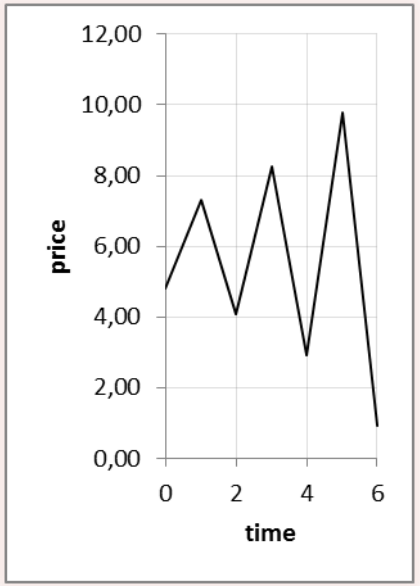
- cobweb model: stability
  - new equilibrium after some periods of price fluctuations



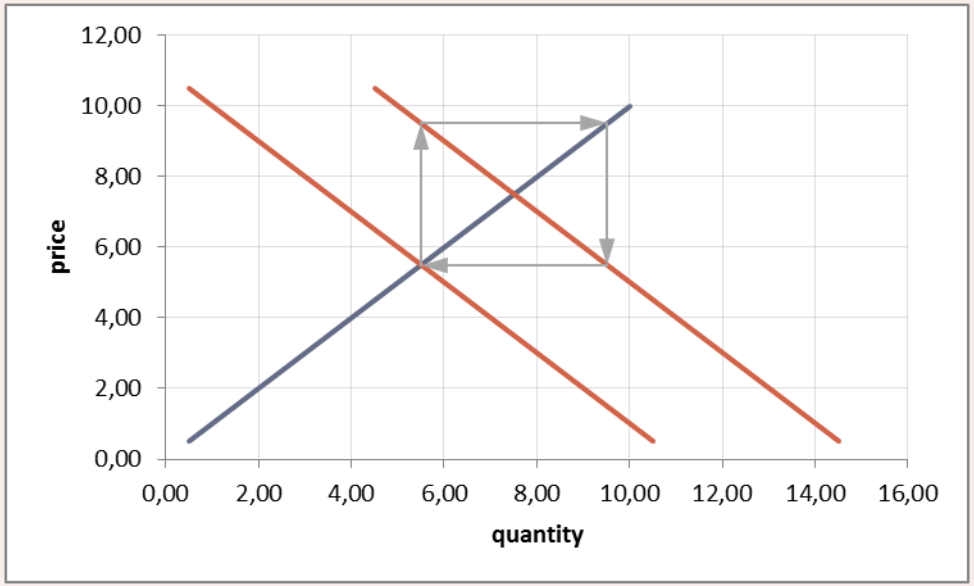


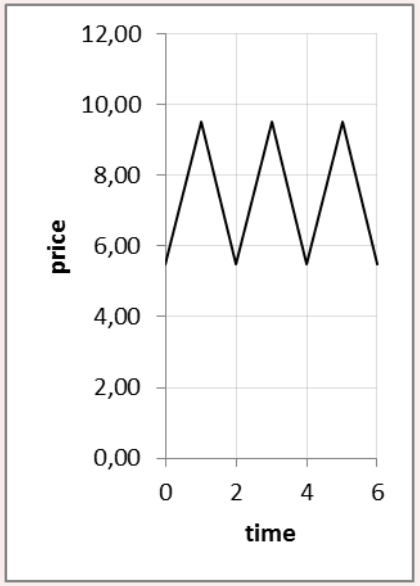
- cobweb model: instability
  - no equilibrium, erratic fluctuations with exploding bubbles and severe channels





- cobweb model: pork cycle
  - no equilibrium, oscillating fluctuations with more or less remarkable spread





Micro and Macro – Fast Forward in 7 Chapters

Introduction

Market: Demand, Supply, Equilibrium, Prices

Market Structure

Classical and Keynesian Economics

Factors of Production

Sources of the Wealth of Nations: Division of Labour, Money

Economy in Figures

Market Structure - Perfect Competition

- competition at its greatest possible level, characterised by:
  - perfect knowledge, freely available, no information failure or time lags
  - no barriers to enter into or exit out of the market
  - homogeneous and identical (e.g. no branding) units of output
  - homogeneous and identical units of input, such as units of labour
  - no single firm can influence the market price, or market conditions, hence said to be a price taker (= taking its price from the whole industry)
  - very large number of firms in the market
  - no need for government regulation, except to make markets more competitive
  - no externalities, which is no external costs or benefits

- prices and profits
  - in the short run
    - an innovative firm may achieve super-normal (i.e. distinctively more than the competitors') profit
    - super-normal profits attracts new competitors
    - extending capacities
    - effects of extending capacities and imitation
  - in the long run
    - supply curve flattens and shifts to the right
    - market price equals the natural price, hence normal (i.e. covering all costs and a 'normal' margin) profits only
    - innovative firms try to achieve super-normal profits again …

- benefits of perfectly competitive markets
  - no monopoly power
  - prices as low as possible
  - highest possible demand and economic welfare
  - allocative and productive efficiency at its best
    - economic Darwinism: survival of the fittest
- is it realistic? – no!
  - only a few primary and commodity markets show perfect competition
  - most markets for goods and service show a lack of one or more characteristics

Market Structure - Oligopoly

- a few firms and/or a few customers dominate, characterised by:
  - interdependence
    - firms cannot act independently of each other, taking the potential reaction of its closest rivals into account when making its own decisions (prisoner's dilemma)
  - strategy: anticipate the likely response of a rival to any given change in price or non-price activity
    - competition or collusion?
    - raise or lower price, or keep price constant?
    - being the 1st or the 2nd mover?
  - general tendency towards collusion (cartel)
    - overt with a formal contract or agreement, e.g. OPEC, or hidden, e.g. ?
    - tacit by following a price leader without any agreement

- characteristics
  - natural barriers to entry
    - economies of large scale production
    - ownership or control of a key scarce resource
    - high set-up or R&D costs
  - artificial barriers to entry
    - predatory pricing: pushing a price down to force competitors out of the market
    - limit pricing: high output combined with a price just below potential rivals' ATC
    - superior knowledge of market, customers, cost, etc.
    - predatory acquisition by taking-over potential or existing rivals
    - advertising, strong brands, loyalty schemes, exclusive contracts, patents, licences
    - vertical integration with own supply and retail

- pricing
  - cost-plus pricing by summing up costs plus a mark-up for profits
    - full cost pricing, including all fixed and variable costs
    - contribution pricing, including variable costs only
    - common in oligopoly markets because it is likely that the few firms that dominate may often share similar costs
  - price stickiness – reaction of competitors to price changes
    - one competitor increases the price: rivals will not follow suit to get a competitive advantage
    - one competitor decreases the price: all the rivals must follow suit for not losing market share, perhaps resulting in lower profits for every incumbent

MARKET STRUCTURE - OLIGOPOLY

- characteristics
  - non price competition to avoid cutthroat price wars
    - improving quality and after sales services, e.g. guarantees
    - advertising, sponsorship and product placement, e.g. Deutsche Fußball Bundesliga
    - sales promotion, e.g. fast food chains
    - loyalty schemes, e.g. IKEA family

- prisoner's dilemma to demonstrate interdependence in oligopolies
  - Thelma and Louise are arrested in solitary confinement
  - the police need a confession for the principal charge
  - the deal offered by the police:
    - testifying that the other committed the crime will be rewarded by a lesser sentence for the whistle-blower
    - Thelma testifies and Louise remains silent: Thelma 1 year, Louise the maximum sentence of 15 years
    - Thelma and Louise both testify: both 10 years (the reduced sentence for co-operating with the police)
    - Thelma remains silent and Louise testifies: Thelma 15 years, Louise 1 year
    - Thelma and Louise both remain silent: both 2 years on a lesser charge

- prisoner's dilemma: the results
  - if Thelma remains silent, she will receive a 15-year (Louise testifies) or 2-year (Louise remains silent too) sentence
  - if Thelma testifies, she will receive a 10-year (Louise testifies too) or 1-year (Louise remains silent) sentence
  - Thelma's sentence depends on what Louise is doing:
    - if Louise testifies, Thelma is better off testifying too, receiving 10 instead of 15 years
    - if Louise remains silent, Thelma is again better off testifying too, receiving 1 instead of 2 years
    - so it is in Thelma's best interest to testify
  - Louise: vice versa

- prisoner's dilemma: the implication for oligopolies
  - no co-operation, no communication, and no trust
    - every oligopolist will act purely rational and pursuing individual reward logically leads them to betray, when they would get a better reward as with co-operation
    - hence realising the worst of all outcomes (20 instead of 4 years for both together)
  - co-operation, communication, and trust is likely to be highly rewarding, causing a tendency for cartels to form
    - reducing the uncertainty associated with the mutual interdependence of rivals
  - cartels agree on a total quantity produced and on a standard price
    - both calculated in a way to maximise the cartel's profit (just like in a monopoly)
    - every member of the cartel gets a share in the market by producing a fixed, assigned quantity

- negative aspects of cartels
  - are designed to protect the interests of members, and the interests of consumers may suffer because of
    - higher prices or hidden prices, such as the hidden charges in credit card transactions
    - lower output
    - restricted choice or other limiting conditions associated with the transaction
    - inefficiency of producers because of reduced competition and missing market forces
  - cartels are ‘unlawful’ in many cases

- positive aspects of cartels
  - even though there are a few firms, making the market uncompetitive, their behaviour may be highly competitive
  - oligopolists may be dynamically efficient in terms of innovation and new product and process development, if the super-normal profits they generate are used to innovate, in which case the consumer may gain
  - price stability may bring advantages to consumers and the macro-economy because it helps consumers plan ahead and stabilises their expenditure, which may help stabilise the trade cycle

- monopoly: a specific person or enterprise is the only supplier of a particular good or service, based on:
  - economic barriers to entry
    - such as economies of scale, capital requirements, technological superiority
  - social barriers based on network effects
    - direct relationship between the proportion of people using a product and the demand for that product, e.g. fashion or MS Office
  - legal barriers as an opportunity to monopolise the market of a good
    - e.g. intellectual property rights, including patents and copyrights
  - deliberate actions to exclude competitors or eliminate competition
    - including collusion, lobbying governmental authorities, and force
  - control of resources

- natural monopolies control resources
  - may arise when there are extremely high fixed costs of distribution, such as exist when large-scale infrastructure is required to ensure supply
    - e.g. cables and grids for electricity supply, pipelines for gas and water supply, and networks for rail and underground
  - very significant economies of scale
    - minimum efficient scale is not reached until the firm has become very large in relation to the total size of the market
  - sunk costs deter entry and exit

- natural monopolies
  - potential to exploit monopoly power: tendency to nationalisation or heavy regulation
  - increasing competition by encouraging new entrants into the market creates a potential loss of efficiency
    - efficiency loss to society would exist if the new entrant had to duplicate all the fixed factors – e.g. the infrastructure
    - it may be more efficient to allow only one firm because allowing competition would mean a wasteful duplication of resources

- pricing
  - excessive profits in privately owned unregulated monopolies, even in the long run, because a monopolist charges whatever price will yield the greatest profit
    - according to the demand curve a price is connected to a quantity demanded, hence a revenue as well
    - quantity demanded leads to certain costs
    - profit is revenue minus costs, thus the monopolist can easily calculate and maximize the profit

- criticising monopolies for:
  - allocative inefficiency, i.e. restricting output onto the market
  - productive inefficiency because of no competition
  - charging a higher price than in a more competitive market
  - deadweight losses, as consumer surplus and economic welfare are reduced
  - restricting choice for consumers
  - reducing consumer sovereignty

- advantages of monopolies:
  - avoiding wasteful duplication of infrastructure
  - domestic monopolies can become dominant in their own territory and then penetrate overseas markets, earning a country valuable export revenues, e.g. Microsoft
  - perhaps monopoly power is required to generate dynamic efficiency, that is, technological progressiveness, because:
    - a dominant position is needed to bear the risks associated with innovation and this innovation can lead to lower costs than in competitive markets..
    - firms need to be able to protect their intellectual property by establishing barriers to entry and to avoid free riding
    - if some of the super-normal profits are invested in new technology, costs are reduced via process innovation, shifting the supply curve to the right

- monopolistic competition: a market structure in which firms have many competitors, but each one sells a slightly different product
  - many small businesses operate under these conditions, including independently owned and operated high-street stores, consumer services such as hairdressing, hotels, pubs, and restaurants
    - close but imperfect substitutes: the goods perform the same basic functions but have differences such as type, style, quality, reputation, appearance, and location
    - e.g. restaurants: each one offers something different and possesses an element of uniqueness, but the differences are not so great as to eliminate other goods as substitutes

- differentiation
  - physical product differentiation, using size, design, colour, shape, performance, and other features, e.g. consumer electronics
  - marketing differentiation by distinctive packaging and other promotional techniques
    - fashionable clothing brands frequently differentiates by promotion only, like e.g. Hollister resp. Abercrombie & Fitch, who successfully sold t-shirts by operating surprisingly different stores.
  - human capital differentiation through the skill of its employees, the level of training received, distinctive uniforms with a clear recognition value, etc.
  - differentiation through distribution
    - e.g. Amazon, which differentiates itself from traditional bookstores by selling online, or Ebay, which enables everybody to sell by auction.

- monopolistic competition: features
  - each firm makes independent decisions about price and output, based on its product, its market, and its costs of production
    - each firm sells a unique product, it can charge a higher or lower price than its rivals, so far being quite similar to monopolies
    - the industry price may be a guideline, or becomes a constraint
  - firms are heavily engaged in advertising
    - as there are usually large numbers of independent firms competing in the market, incumbents are often in fierce competition with other firms offering a similar product or service, and may need to advertise precisely, to let customers know their differences
    - supernormal profits are possible in the short run, but in the long run new firms are attracted into the industry, because of low barriers to entry, good knowledge and an opportunity to differentiate

- monopolistic competition: advantages
  - no significant barriers to entry: markets are relatively contestable
  - differentiation creates diversity, choice and utility
    - e.g. huge number of different restaurants in bigger cities
  - the market is more efficient than monopoly but less efficient than perfect competition in terms of allocation and production
    - however, firms may be dynamically efficient, innovative in terms of new production processes or new products
    - e.g. retailers often constantly have to develop new ways to attract and retain customers

- monopolistic competition: disadvantages
  - some differentiation does not create utility but generates unnecessary waste, such as excess packaging
  - advertising may also be considered wasteful, especially if it is persuasive rather than informative
  - allocative inefficiency in both the long and short run
    - price is above marginal cost in both cases
- monopolistic competition is more realistic than perfect competition
  - many familiar and commonplace markets have many of these characteristics
  - the existence of monopolistic competition partly explains the survival of small firms in modern economies

MICRO AND MACRO – FAST FORWARD IN 7 CHAPTERS

Introduction

Market: Demand, Supply, Equilibrium, Prices

Market Structure

Classical and Keynesian Economics

Factors of Production

Sources of the Wealth of Nations: Division of Labour, Money

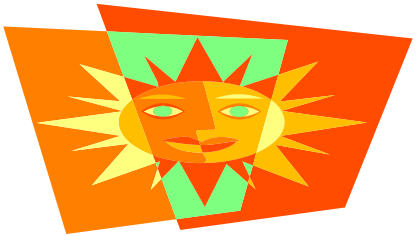
Economy in Figures

- economic system: centrally planned economy
  - decisions regarding production and investment are embodied in a plan formulated by a central authority
  - state-owned enterprises, private enterprises directed by the state, or a combination of both
  - hierarchical co-ordination by a public body such as a government agency
  - information flow by a complex reporting system and instructions
  - incentives if in compliance with the plan, sanctions if not
  - nowadays to be found in Cuba, North Korea, and Laos only

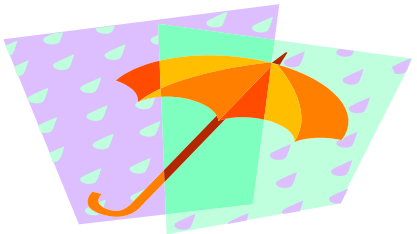
- economic system: market economy
  - decisions regarding production and investment are driven by buyers' and sellers' self interest
  - mainly privately owned enterprises, few state-owned enterprises only
  - co-ordination by the invisible hand of the market, levelling out supply and demand
  - price changes deliver all information about a market
  - material incentives by the price mechanism, money as reward and bankruptcy as penalty

Classical and Keynesian Economics

- classical economics, neoclassical economics
  - mainly based upon the ideas of Adam Smith
    - liberal economic constitution with as less governmental activities as possible
    - in general, economies remain in a state of equilibrium



- Keynesian economics
  - based on the ideas of John Maynard Keynes (1883 – 1946)
    - in general economies remain in a state of disequilibrium with unemployment and inefficient use to capacities
    - governmental activities are necessary to change from economic imbalance to equilibrium



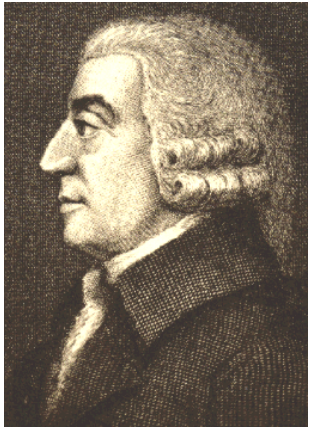
- basic assumptions of classical economics
  - consumer sovereignty
    - consumer preferences determine the production of goods and services: producers decide about what to be produced, but with regard to market success
    - under competition consumers indirectly determine production
    - producers always satisfy consumers wants and needs, no regulation necessary
  - maximum consumer sovereignty in polypolistic markets, less consumer sovereignty in oligopolies or monopolies
    - consumers' indirect control has to be retrieved by governmental interventions

- classical economics: basic assumptions
  - Say‘s law [1] : aggregate production necessarily creates an equal quantity of aggregate demand
    - “As each of us can only purchase the productions of others with his own productions – as the value we can buy is equal to the value we can produce, the more men can produce, the more they will purchase”
    - supply always equals demand, resulting in an equilibrium
  - increasing production ⇨ increasing income ⇨ increasing demand
    - along with the concept of the invisible hand, Say's law supports the laissez-faire belief that an economy will always tend toward equilibrium without government intervention

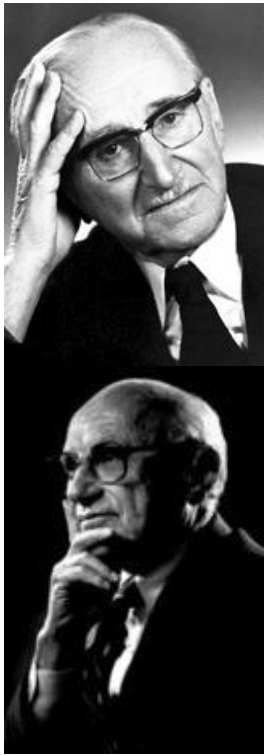
[1] Jean-Baptiste Say (1767 – 1832)

- classical economics: statements and assertions
  - markets do satisfy consumers' wants and needs at the best, thus providing maximum economic wealth
  - no need for regulation with the invisible hand in action
    - important: competition, i.e. quantities, prices, wages and interest rates are flexible
    - governmental interventions are necessary only to keep the invisible hand working
  - economic development is based on the development of supply (Say's law)

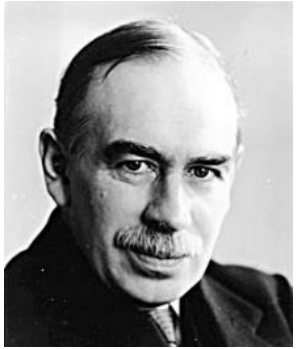
- Adam Smith
  - individual activity serves the common goal, providing economic growth and prosperity
  - the state's only legitimate function is the protection of individuals from assault, theft, breach of contract, and fraud, and the only legitimate governmental institutions are the military, police, and courts
    - night watchman state or minimal state (“Nachtwächterstaat”, Ferdinand Lassalle, 1862) and Manchester-liberalism



- neoclassical economics
  - further developments of Adam Smith‘s ideas
    - e.g. by Friedrich August v. Hayek, Milton Friedman (1912 - 2006)
  - historical experience with classical economics suggests that the state has to perform some additional tasks
    - protect the economy from abuse of market power (monopoly, cartel)
    - keeping up a monetary system
    - establishing norms and standards
  - but: only as much governmental interventions in the market as necessary

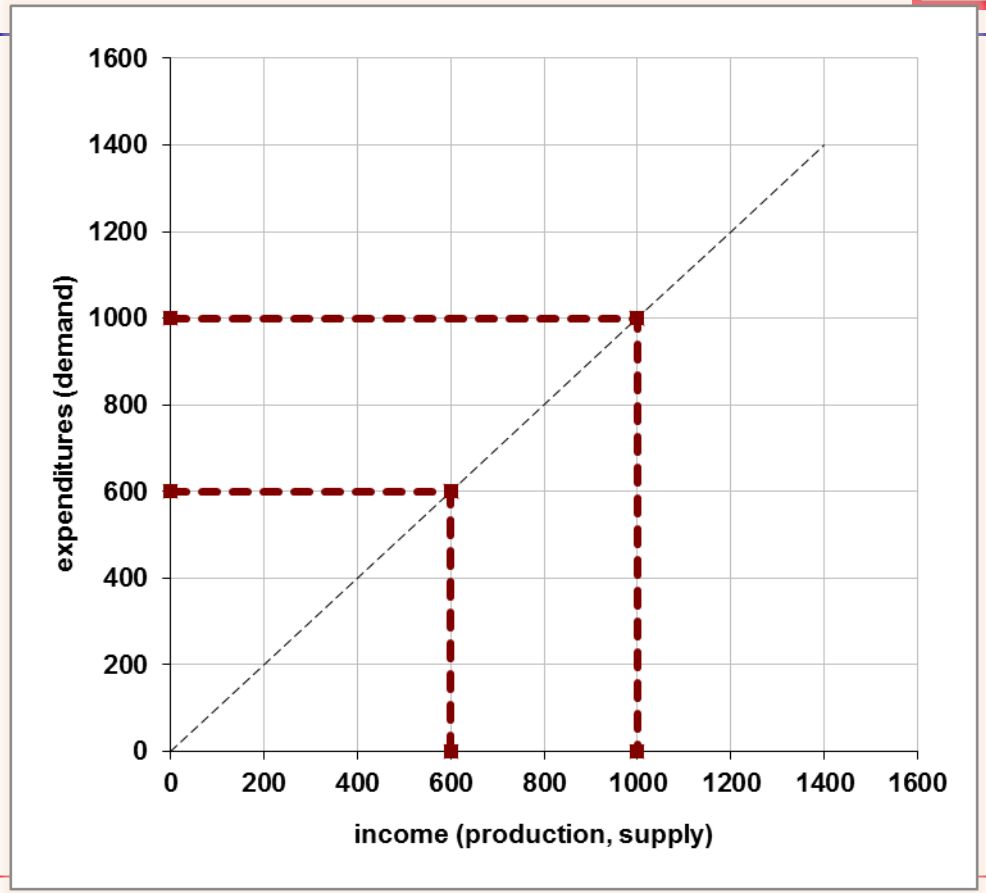


- basic assumptions of Keynesian economics
  - disequilibrium is normality
    - firms do have free production capacity, even at short notice
    - unemployment: additional labourers are available, even at short notice
    - wages are fixed in the short run
    - as a result, short term increase in production does not result in rising costs per unit
  - firms work below capacity because of a lack of demand
  - prevailing competition in economy
  - prices are constant in the short run
  - short term analysis (“In the long run we are all dead.”)



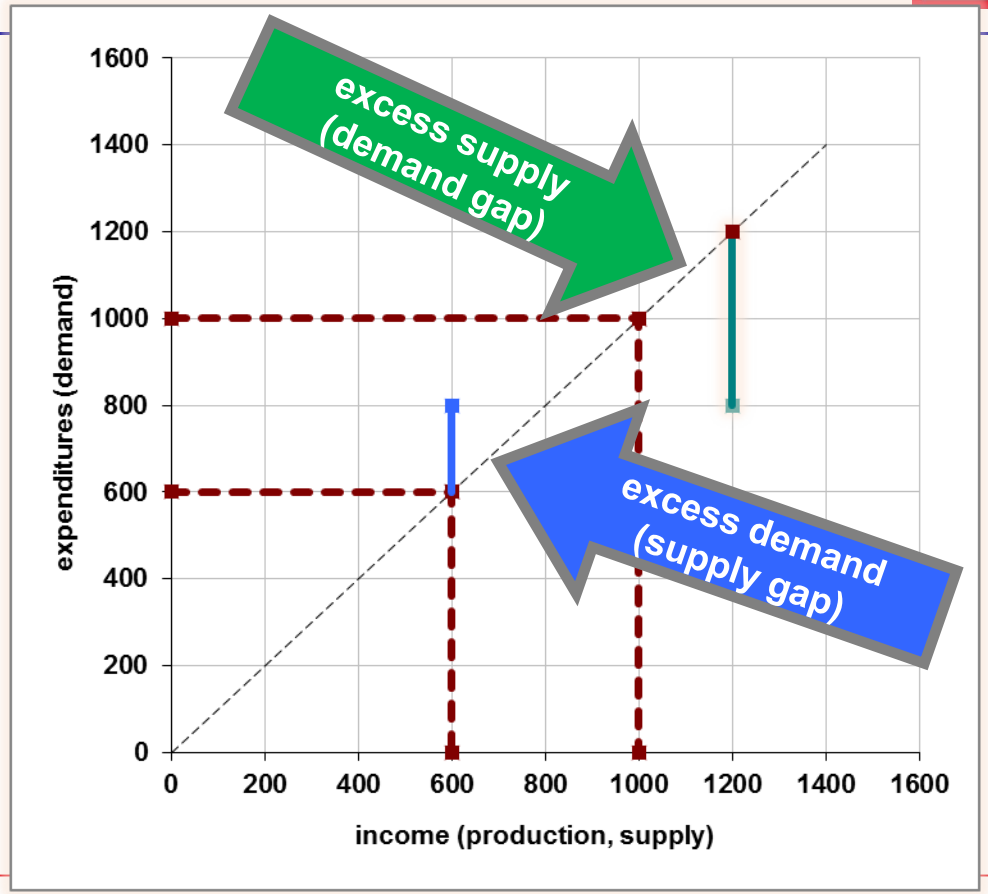
- four components of Keynesian economics
  - market for goods and services
    - consumption function: consumption as most important element of GDP
    - investment function: cyclical fluctuations of investments
  - money market
    - money supply
    - money demand
- for ease of understanding: no trade with foreign countries, no governmental activities

- income-expenditure diagram
  - equilibrium if planned income equals planned expenditures

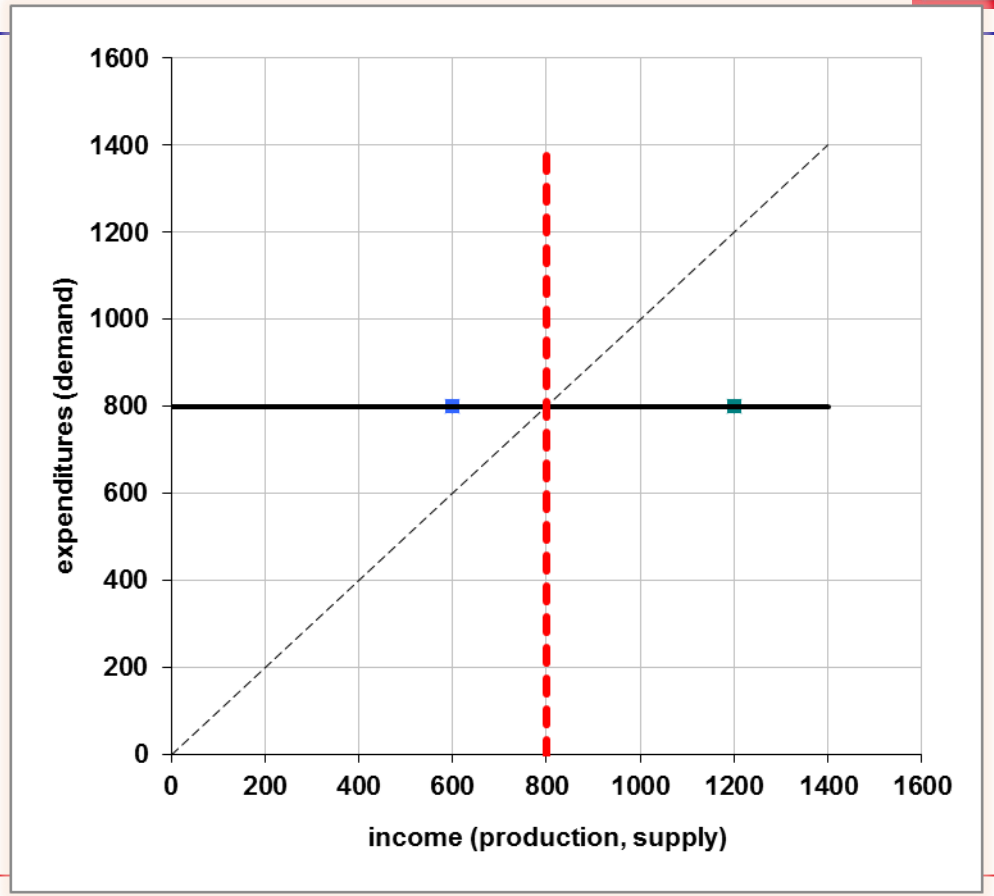


CLASSICAL AND KEYNESIAN ECONOMICS – KEYNES

- income-expenditure diagram
  - any combinations of income and expenditures aside the 45°-line mark a disequilibrium



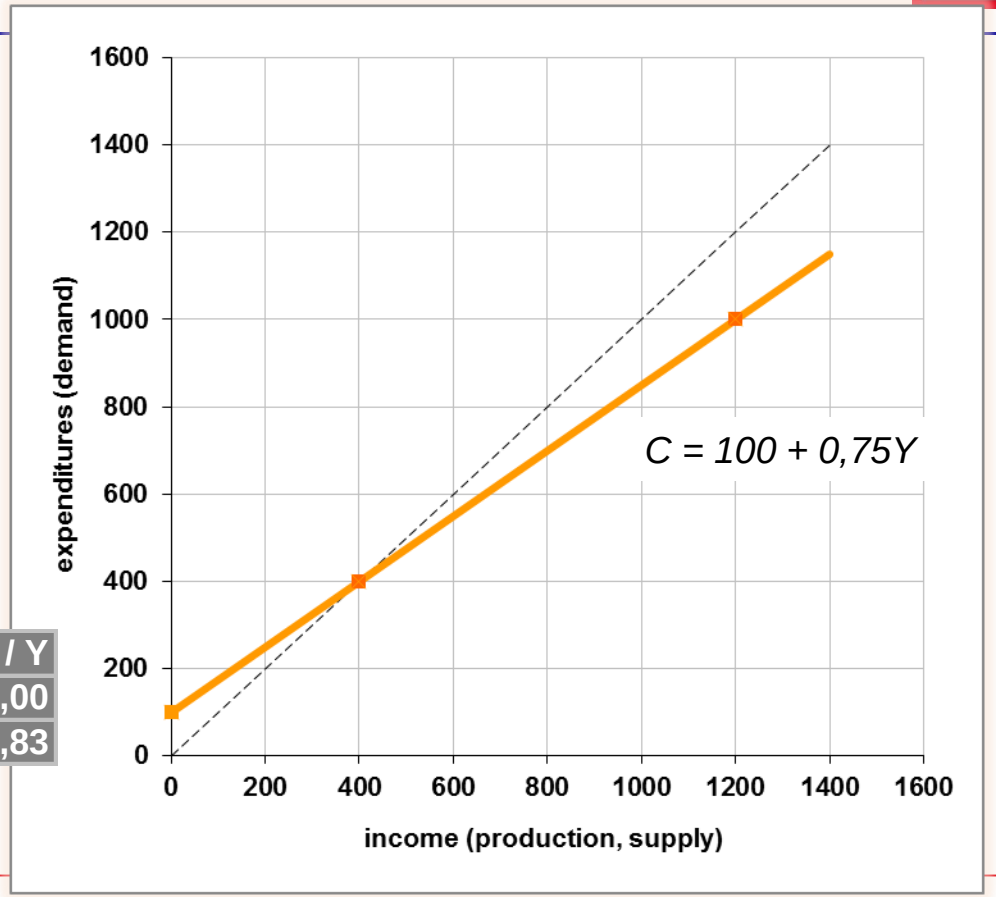
- the Keynesian cross diagram
  - as prices are constant (in the short run), buyers and sellers adapt their plans by adapting quantities



- Keynes' consumption function
  - private consumption *C* depends on ...
    - ... emotional, individual, and social factors, such as personal attitude towards consuming and saving, expectations on future developments, aspiration, fear, parsimony, etc.
    - ... rational factors, such as income, interest rates, price, taxes, transfers, and wealth
  - income is the most important determinant of private consumption *Y*: *C = C(Y)*
    - *C* is positively related with the income
    - easiest approximation by a linear function : $C = C^{aut} + c*Y$
    - C^{aut} = autonomous consumption, representing consumption when income is zero
    - *c* = marginal propensity to consume (*MPC*), the rate at which consumption is changing when income is changing (geometrically, the slope of the consumption function)

- absolute income hypothesis
  - as income increases, consumption increases too, but not by as much as the increase in income, letting the average propensity to consume (*APC*) fall
    - *APC = C / Y*

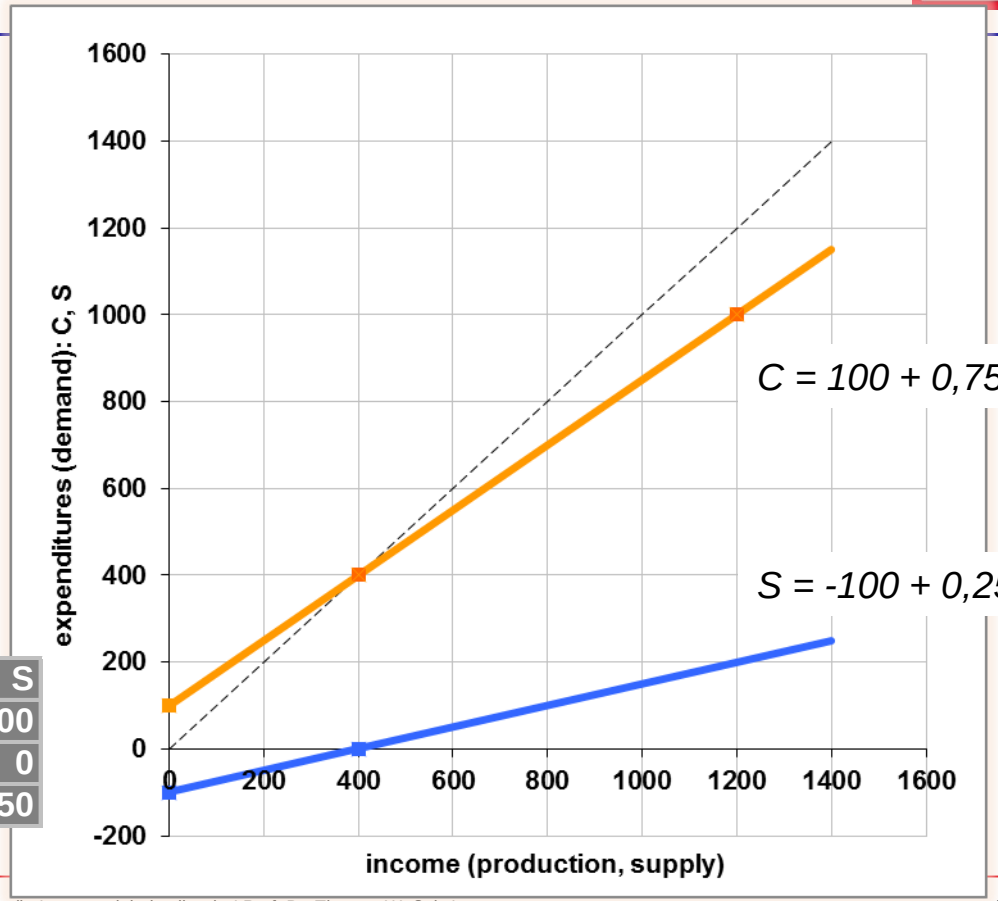
Y	C	C / Y
400	400	1,00
1200	1000	0,83



- Keynes' saving function
  - customers enjoy two ways to spend income: consume and save
  - income = consumption + saving, $Y = C + S$
  - or: $Y = C^{aut} + c*Y + S$
  - resp.: $S = -C^{aut} + (1-c)*Y$
  - autonomous saving: $S^{aut} = -C^{aut}$
  - marginal propensity to save (*MPS*): $s = 1 - c$
  - hence: $S = S^{aut} + s*Y$

- Keynes‘ saving function
  - saving is positively related to income
  - problem at low levels of income: total spending may exceed income causing ‘dis-saving’

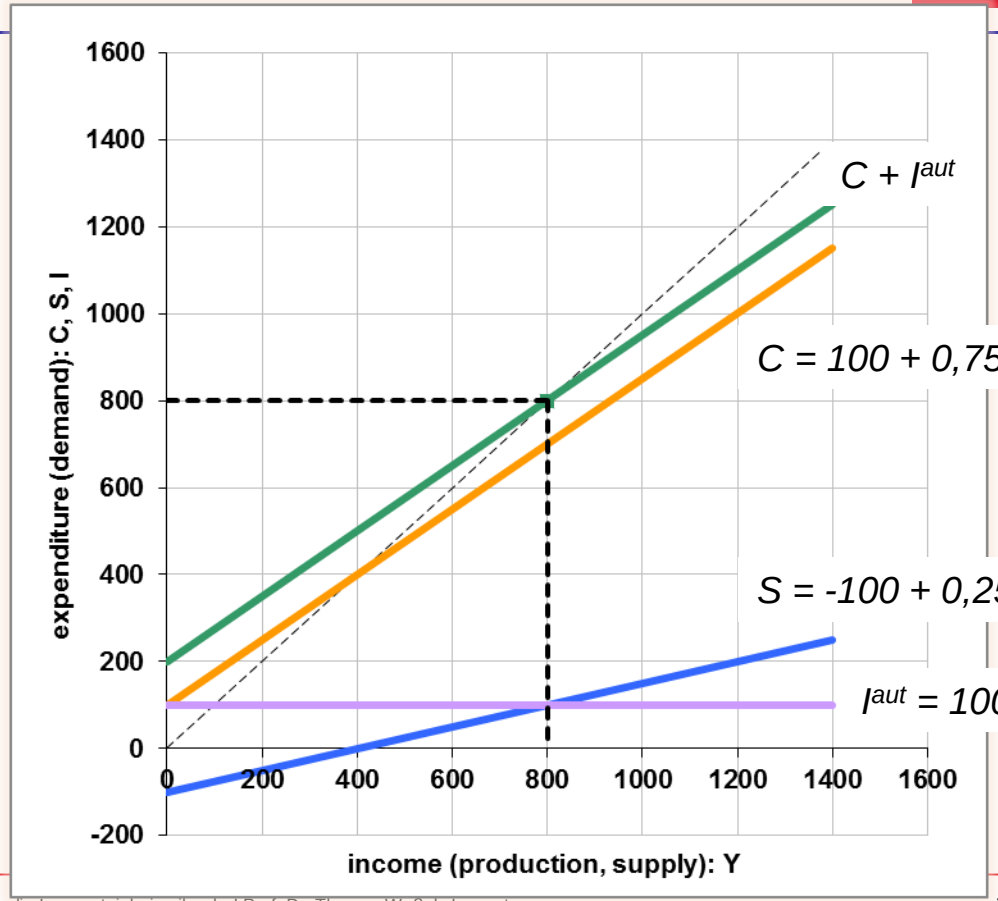
Y	C	S
0	100	-100
400	400	0
1400	1150	250



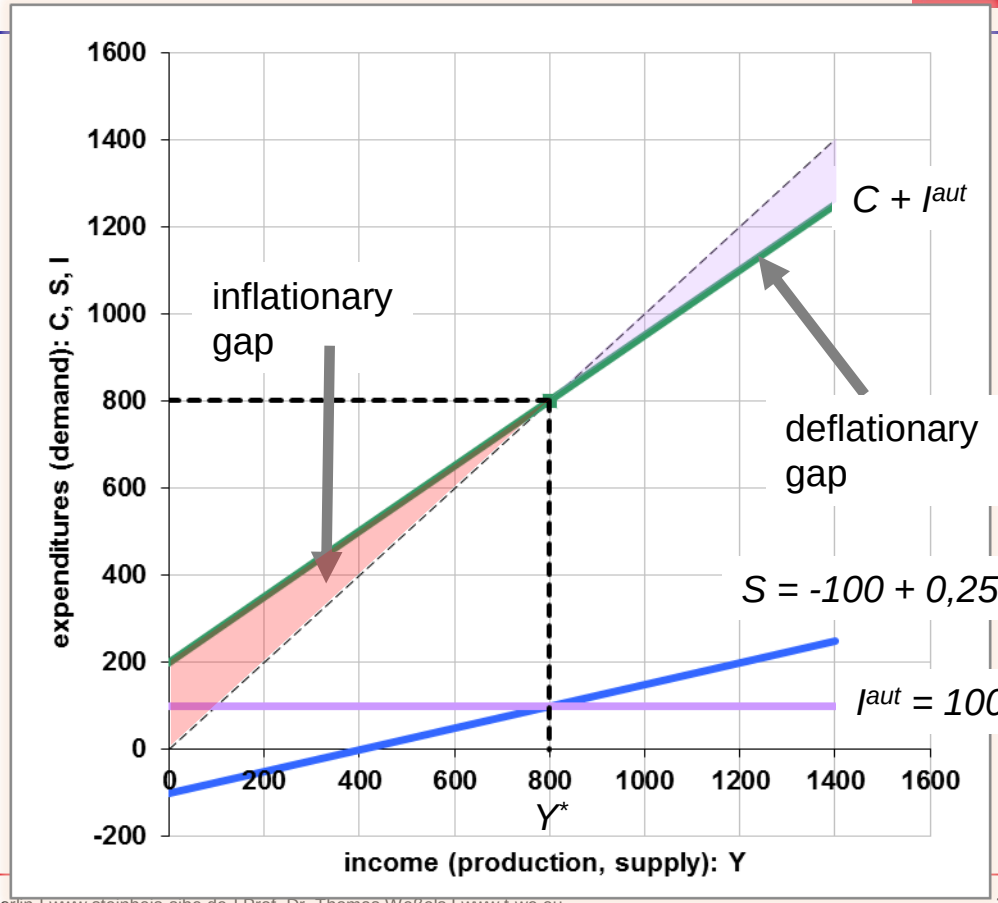
- Keynesian economics with autonomous investments
  - investments are determined by several factors, such as interest rates and expectations
  - for ease of explanation investments are set constant: I^{aut}
  - total demand by consumers and firms equals consumption and investments
  - equilibrium, if planned consumption and planned investments equals planned income: $Y^* = C + I$
  - using the consumption function: $Y^* = C^{aut} + c * Y^* + I^{aut}$
  - resp.: $(1-c) * Y^* = C^{aut} + I^{aut}$
  - or: $Y^* = \frac{C^{aut} + I^{aut}}{1 - c}$

CLASSICAL AND KEYNESIAN ECONOMICS – KEYNES

- equilibrium with consumption and autonomous investments

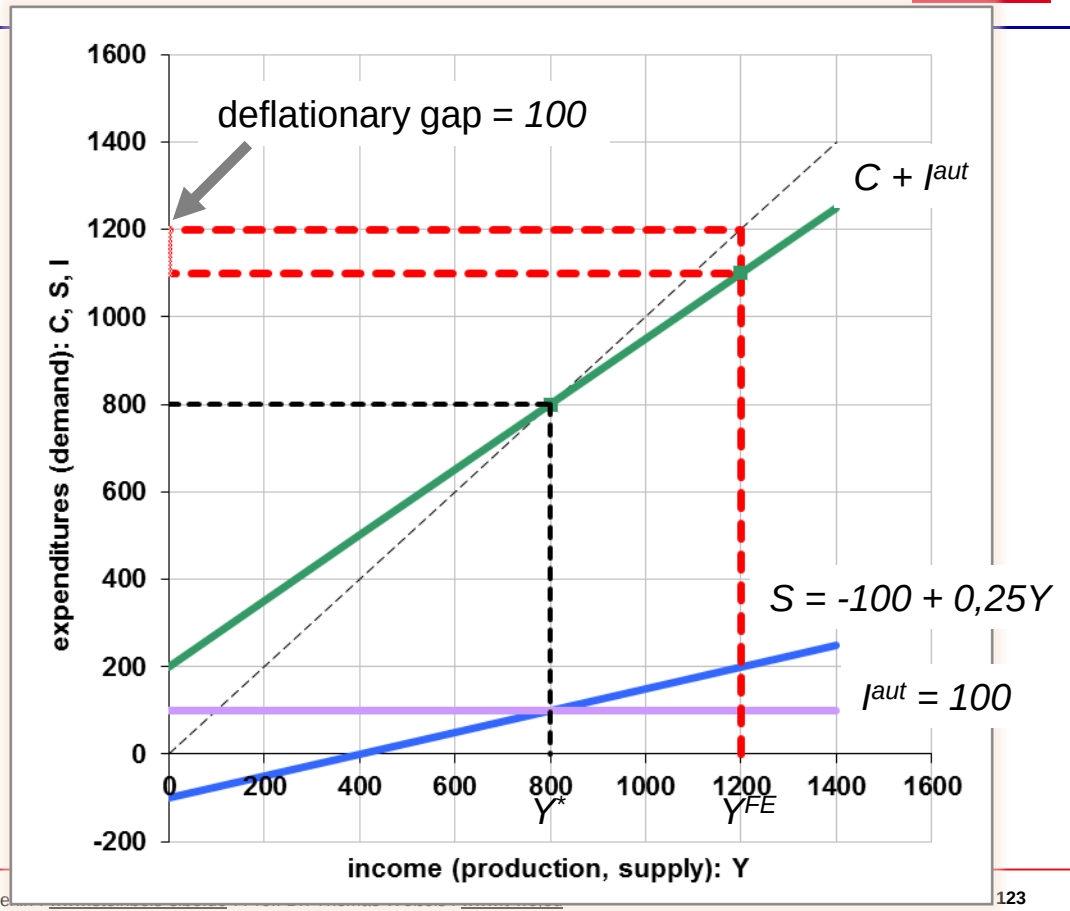


- disequilibrium causes adaption of quantities up to equilibrium



- equilibrium with unemployment
  - e.g.: full employment at $Y^{FE} = 1\,200$
  - an income (quantity supplied) of Y^{FE} comes along with a total demand of $C + I^{aut} = 1\,100$
  - no equilibrium at Y^{FE} but a deflationary gap of *100* instead
  - moving towards equilibrium income Y^*, thus resulting in unemployment
  - the quintessence of Keynesian economics: insufficient demand causes unemployment
    - firms do not produce because of a lack of demand, and consumers do not demand because of a lack of income, and the lack of income exists because of a lack of production, and …

- equilibrium and unemployment
  - insufficient demand: deflationary gap



- Keynesian multiplier
  - exogenous increases in spending, such as an increase in government outlays, increases total spending by a multiple of that increase
  - cause & effect: rising investments by ΔI, facing a Keynesian multiplier of k, effects the income increasing k-times of ΔI

$$\Delta Y = \Delta C + \Delta I$$

$$c = \frac{\Delta C}{\Delta Y}$$

$$\Delta Y = c * \Delta Y + \Delta I$$

$$\Delta Y - c * \Delta Y = \Delta I$$

$$(1 - c) * \Delta Y = \Delta I$$

$$\Delta Y = \frac{1}{1 - c} \Delta I$$

$$\Delta Y = k * \Delta I \quad with\ k = \frac{1}{1 - c}$$

- Keynesian multiplier
  - government could stimulate new production and, thus, new income with a modest outlay if …
  - … the people who receive this money then spend most on consumption goods and, regarding their *MPC*, save the rest
  - … this extra spending makes firms to hire more people and pay them, which in turn allows a further increase in consumer spending
  - this process continues several times within a given period of time
  - at each step, the increase in spending is smaller than in the previous step, so that the multiplier process tapers off and allows the attainment of an equilibrium

- Keynesian multiplier: example

  $C^{aut} = 100 \quad c = 0{,}75 \quad I^{aut} = 100 \quad Y^* = 800$

  $Y^{FE} = 1\,200 \quad \Delta Y = 400$

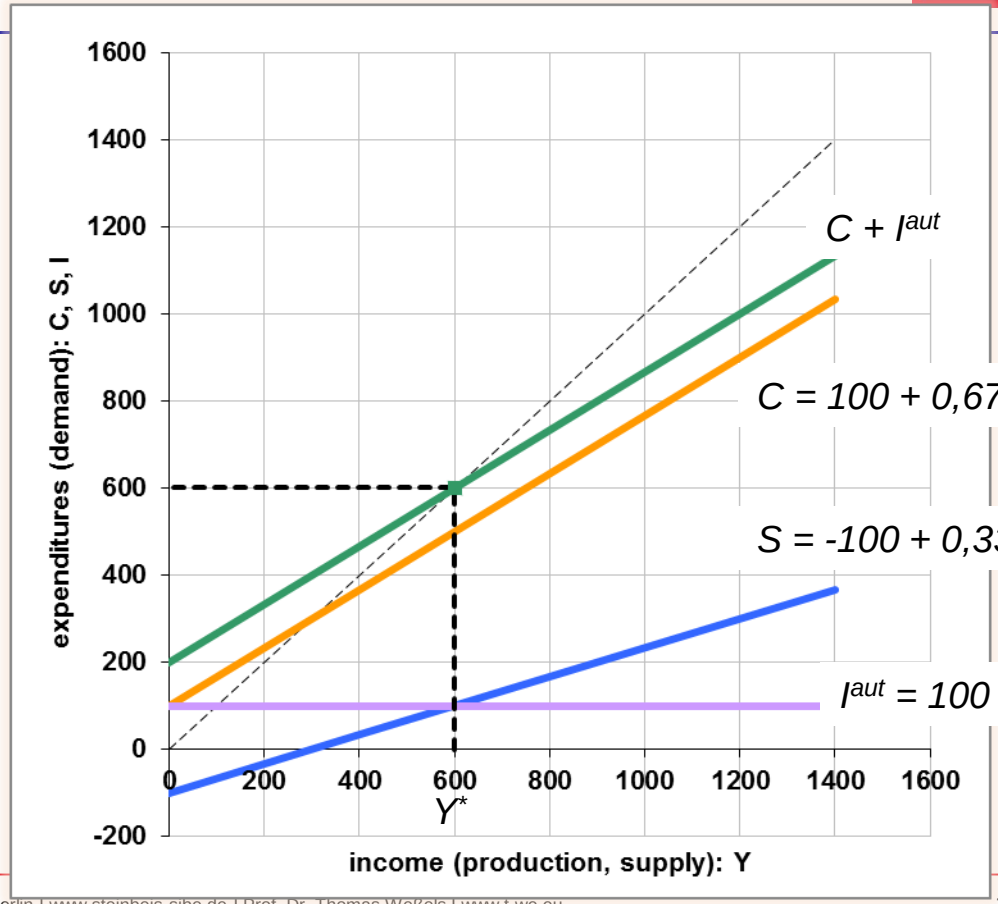
  $k = 4$

  $\Delta I = 100$

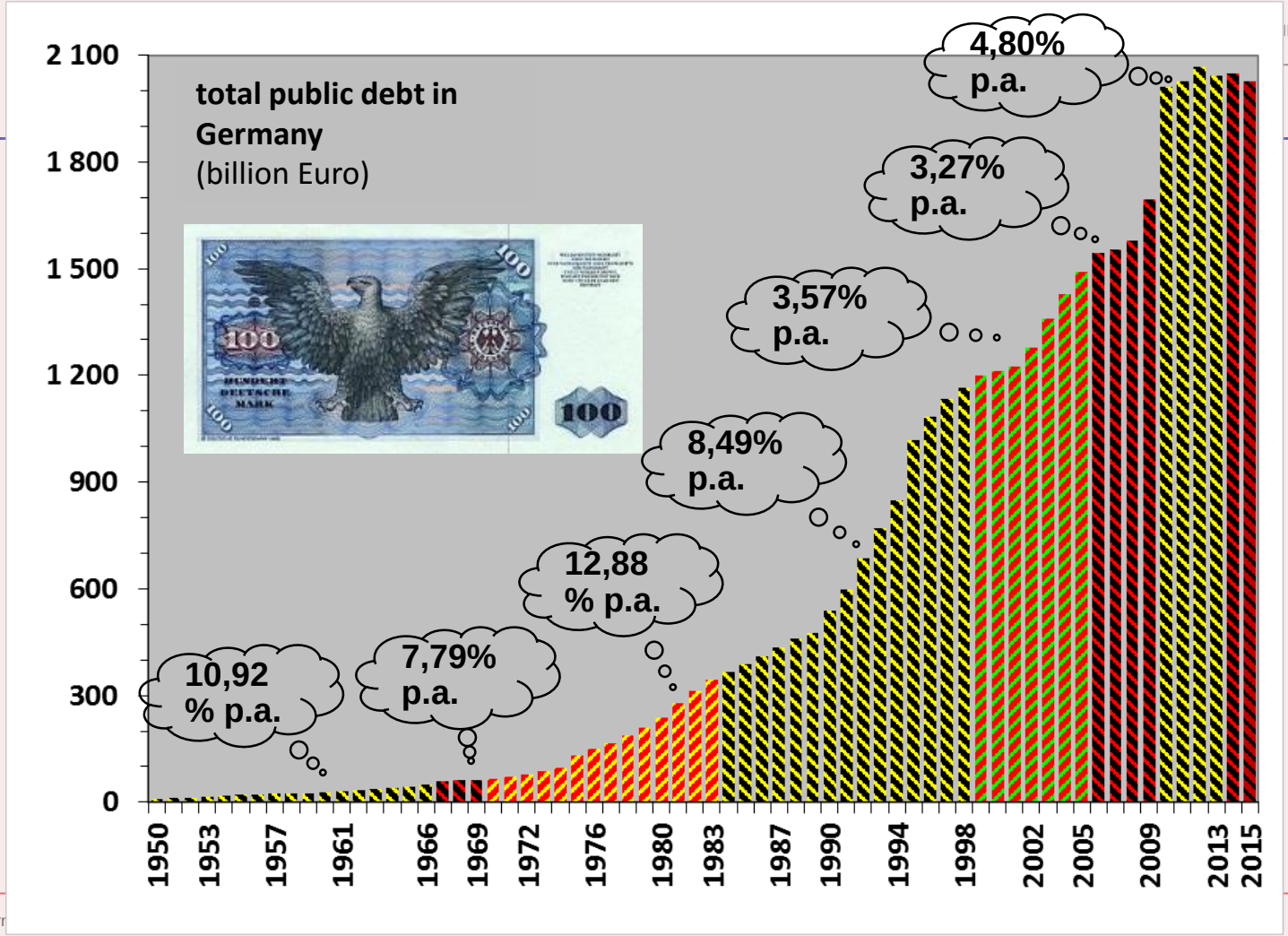
  – an additional investment of 100 is enough to increase total demand up to full-employment level
  – the higher *MPC* (the lower *MPS*) the lower ΔI, to reach full employment

- paradox of thrift
  - trying to save more money by accelerating *MPS* let aggregate demand fall, because $c = 1 - s$
  - because of lower demand firms cut down production, thus causing a decrease in equilibrium income Y^*
  - the accelerated *MPS*, multiplied with the lower income, equals total savings before accelerating *MPS*
  - a higher *MPS* may be useless for increasing savings, but harmful to the economy
  - consequence: spending may help and saving may hurt an economy

- paradox of thrift
  - $S = s * Y^*$
  - before: $s = 1/4$
    $S = 1/4 * 800 = 200$
  - after: $s = 1/3$
    $S = 1/3 * 600 = 200$



- problems of Keynesian economics in Germany
  - increase in income and consumption
    - comparatively high *MPS* of appr. 10%
    - higher repayment of debts instead of higher consumption
    - consumption of imported goods with less effect on German economy
    - tax reductions let available income rise, increase in social insurance contributions let it fall
  - negative expectations and fear of the future let people save their money
  - persistent consumer durables
    - less frequent replacements
  - deadweight effects of economic stimulus
    - no additional consumption in the long run, because of time-shifting necessary expenditures only and no change of behaviour



source: www.destatis.de, retrieved 11.02.2015, end of year data, 2015: Q3

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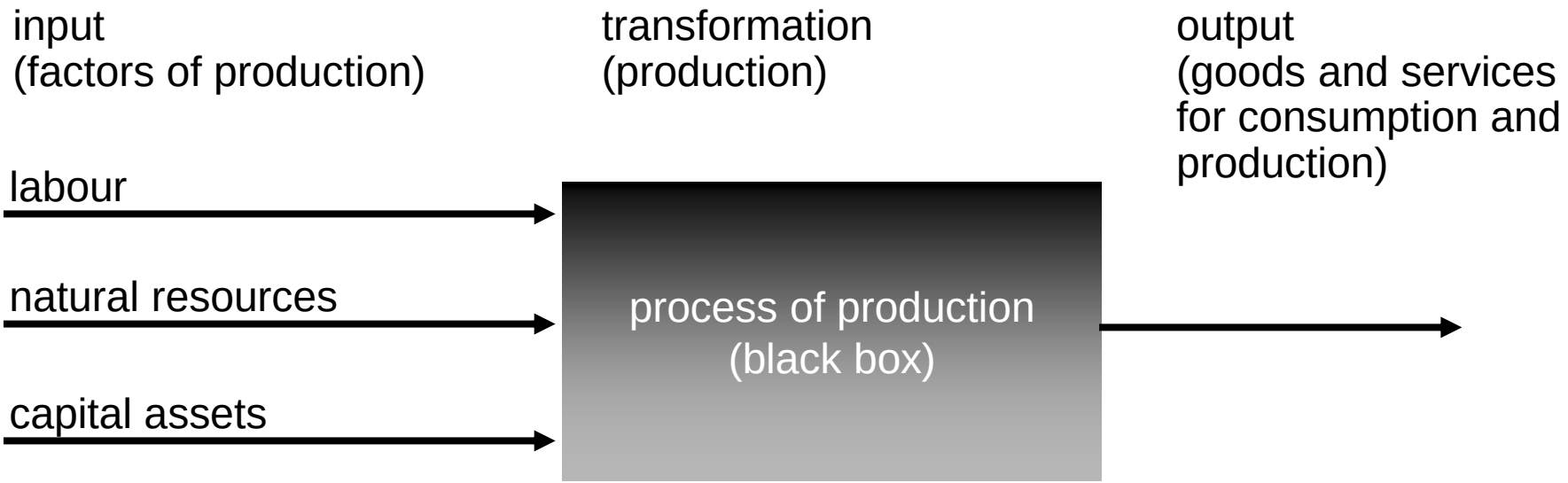
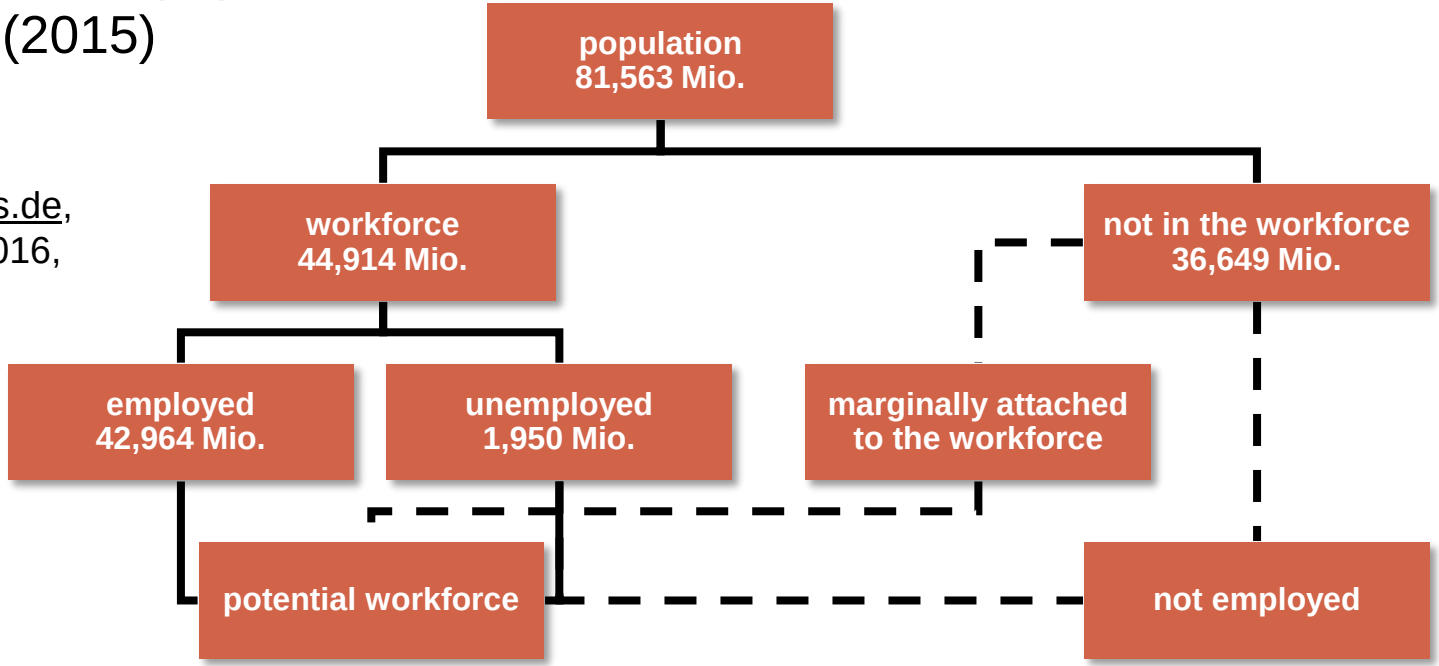
- input – production – output



- labour
  - any kind of manual or mental activity to achieve income
    - problem of definition: caring for ones own household is not qualified as labour …
  - very important in low developed (pre industrial) and high developed (post industrial) economies
    - pre industrial: manual activities on low level of qualification
    - post industrial: highly qualified brain-working in service industries
  - quantitative and qualitative analysis of labour as a factor of production
    - quantitative: number of workers, daily / weekly / yearly / lifetime working hours, employment, and unemployment
    - qualitative: qualifications and industry requirements

- labour market and population in Germany (2015)

source: www.destatis.de, data from January 2016, retrieved 11.02.2016



- labour market statistics and ratios
  - workforce: the sum of the employed and the unemployed
  - unemployment rate: number of unemployed people as a percentage of the workforce
  - workforce participation rate: number of people in the labour force as a percentage of the civilian non-institutional population 16 years old and over
  - potential workforce: all persons (resident concept), which exert or search a direct or indirect gainful activity (self employed, family workers, employees)
    - independently of the importance of the yield of this activity for their livelihood
    - without regard to their effective accomplished or contracted working hours
  - employment-population ratio: number of employed as a percentage of the civilian non-institutional population 16 years old and over

FACTORS OF PRODU

- population and employment in Germany 1991 – 2015

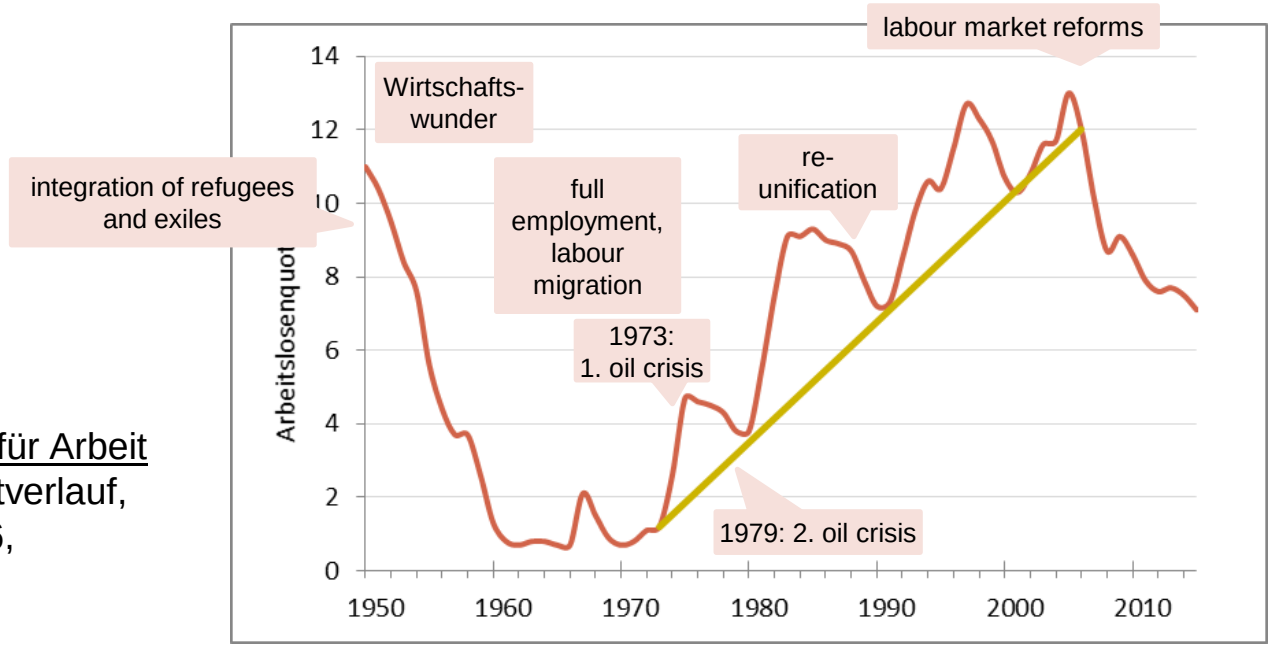
source:
www.destatis.de
retrieved 11.02.2016

year	population		workforce		unemployed		working			
	(1000)	Δ to prev. year in %	(1000)	Δ to prev. year in %	(1000)	Δ to prev. year in %	(1000)	in % of popu-lation	employed (1000)	self employed (1000)
1991	79 973		41 023		2 172		38 851	*48, 58*	35 288	3 563
1992	80 500	*0, 66*	40 879	*-0, 35*	2 573	*18, 46*	38 306	*47, 59*	34 698	3 608
1993	80 946	*0, 55*	40 836	*-0, 11*	3 050	*18, 54*	37 786	*46, 68*	34 120	3 666
1994	81 147	*0, 25*	41 086	*0, 61*	3 306	*8, 39*	37 780	*46, 56*	34 034	3 746
1995	81 308	*0, 20*	41 090	*0, 01*	3 205	*-3, 06*	37 885	*46, 59*	34 088	3 797
1996	81 466	*0, 19*	41 361	*0, 66*	3 471	*8, 30*	37 890	*46, 51*	34 036	3 854
1997	81 510	*0, 05*	41 625	*0, 64*	3 764	*8, 44*	37 861	*46, 45*	33 950	3 911
1998	81 446	*-0, 08*	41 997	*0, 89*	3 682	*-2, 18*	38 315	*47, 04*	34 355	3 960
1999	81 422	*-0, 03*	42 293	*0, 70*	3 366	*-8, 58*	38 927	*47, 81*	34 942	3 985
2000	81 457	*0, 04*	42 906	*1, 45*	3 114	*-7, 49*	39 792	*48, 85*	35 797	3 995
2001	81 517	*0, 07*	42 726	*-0, 42*	3 059	*-1, 77*	39 667	*48, 66*	35 655	4 012
2002	81 578	*0, 07*	42 874	*0, 35*	3 376	*10, 36*	39 498	*48, 42*	35 438	4 060
2003	81 549	*-0, 04*	42 885	*0, 03*	3 810	*12, 86*	39 075	*47, 92*	34 953	4 122
2004	81 456	*-0, 11*	43 345	*1, 07*	4 127	*8, 32*	39 218	*48, 15*	34 960	4 258
2005	81 337	*-0, 15*	43 726	*0, 88*	4 506	*9, 18*	39 220	*48, 22*	34 810	4 410
2006	81 173	*-0, 20*	43 663	*-0, 14*	4 104	*-8, 92*	39 559	*48, 73*	35 076	4 483
2007	80 992	*-0, 22*	43 732	*0, 16*	3 473	*-15, 38*	40 259	*49, 71*	35 732	4 527
2008	80 764	*-0, 28*	43 823	*0, 21*	3 018	*-13, 10*	40 805	*50, 52*	36 302	4 503
2009	80 483	*-0, 35*	43 943	*0, 27*	3 098	*2, 65*	40 845	*50, 75*	36 360	4 485
2010	80 284	*-0, 25*	43 804	*-0, 32*	2 821	*-8, 94*	40 983	*51, 05*	36 496	4 487
2011	80 275	*-0, 01*	43 933	*0, 29*	2 399	*-14, 96*	41 534	*51, 74*	36 971	4 563
2012	80 426	*0, 19*	44 231	*0, 68*	2 224	*-7, 29*	42 007	*52, 23*	37 447	4 560
2013	80 646	*0, 27*	44 451	*0, 50*	2 182	*-1, 89*	42 269	*52, 41*	37 810	4 459
2014	80 983	*0, 42*	44 730	*0, 63*	2 090	*-4, 22*	42 640	*52, 65*	38 243	4 397
2015	81 563	*0, 72*	44 914	*0, 41*	1 950	*-6, 70*	42 964	*52, 68*	38 664	4 300

- group work
  - analyse the development of population, employment and unemployment from 1991 until 2015
    - divide the total period into three sub periods: 1991-2002, 2002-2011, and 2011-2015
    - when do you find increases, when declines?
  - actually, unemployment nowadays is none of the mayor topics in politics in Germany, why?

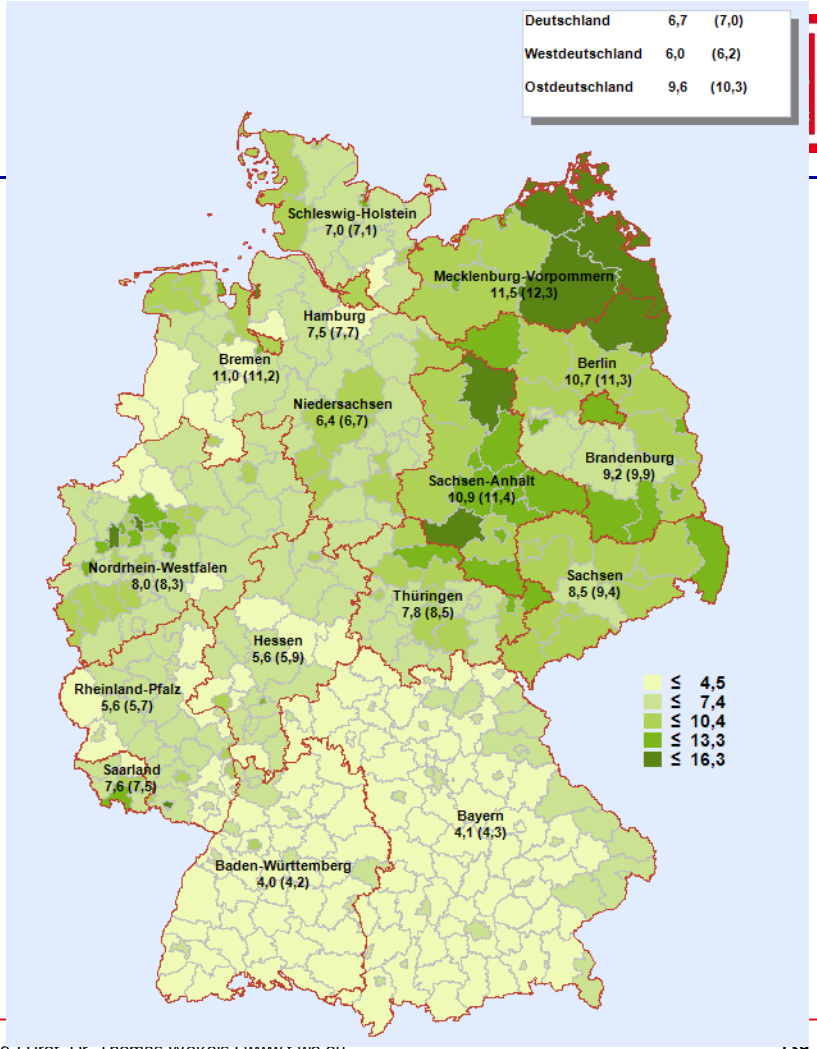
- unemployment in Germany
  - unemployment rate (yearly, 1950-2015)

source: Bundesagentur für Arbeit – Arbeitslosigkeit im Zeitverlauf, data from: January 2016, retrieved 11.02.2016



FACTORS OF PRODUCTION

- regional unemployment in Germany
  - unemployment rates by January 2016
    - Bremerhaven: 16,3%
    - Uckermark: 16,1%
    - Gelsenkirchen: 15,5%
    - Eichstädt: 1,5%



source: Bundesagentur für Arbeit, retrieved 11.02.2016

- types of unemployment, e.g.
  - cyclical: as a result of economic downturn
  - structural: industrial decline because of long term changes in market conditions
  - regional: structural unemployment affecting local areas
  - seasonal: employment within certain periods of the year
  - frictional: during the search for a new job
  - mismatch: qualifications are not fitting
  - automation: machines as job killer
  - globalisation: shifting of jobs to foreign countries
  - demographic: baby boomers, migration, more women in business
  - voluntary: workers choose not to work

- causes for regional unemployment in Germany
  - regional economic structure
    - in prosperous boom towns: many and mostly high qualified jobs in the secondary or tertiary sector – the big six
    - on the countryside: few and mostly less qualified jobs – no MBAs out there …
    - cause & effect?
  - old industries, such as steel and coal, disappear from former core areas – Ruhr area, eastern Germany
  - differences in staff mentality: Calvinistic work ethic vs. slowness and leisure culture – Baden-Württemberg and Ostfriesland
  - …

- working hours
  - daily, weekly, and yearly working hours
    - usually regulated by collective wage agreements, negotiated by organisations of employers or single employers and unions
    - decreasing since the early days of industrialisation until middle of the 1990th, increasing since then
      - peak of the iceberg: VW company agreement of 1994, establishing a 4-days week with 28,8 working hours
      - inverse development since the end of the 1990th, nowadays 40 or more hours per week
  - 'comfortable' holiday entitlement
    - Germany: approx. 6 weeks, USA: approx. 2 weeks, China: ?
  - working lifetime
    - permanent reduction until the end of the 1990th, remarkable increase since then
      - A-levels after 12 instead of 13 years, shortened university education
      - retirement age 67 instead of 65, further increases to be expected

Factors of Production

- labour productivity is more important than working time
  - productivity is an average measure of the efficiency of production, expressed as output per unit of input
  - labour productivity is expressed as output per working hour
  - remarkable differences in labour productivity between high and low developed countries, but even within EU
  - very high labour productivity in Germany, thus legitimating less working hours in international competition

- quality of labour
  - depends on education of staff and what firms request
  - increase in quality by education
    - in general, increasing demand for staff with highest qualification in Germany as well as in other prospering countries
    - but education does not matter, if it's not fitting into employers' requirements
    - mismatch unemployment, e.g. with education in architecture or philology
  - an increase in students within a birth cohort is no means to an end for education policy if they study the 'wrong' subjects

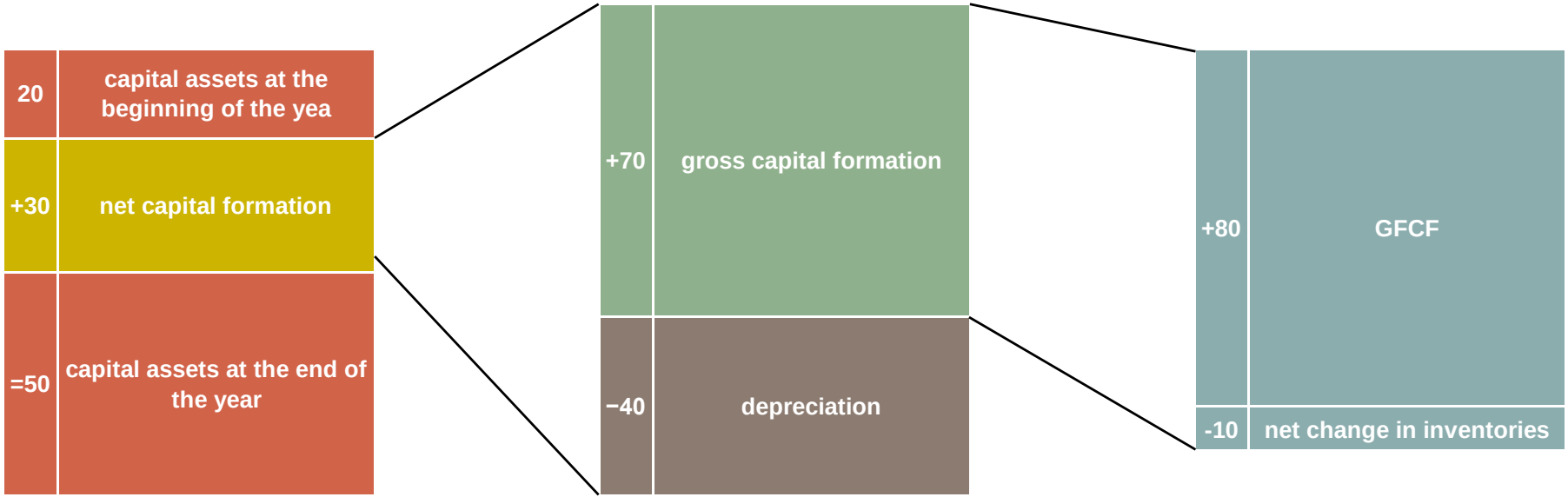
Factors of Production

- natural resources: everything from nature, e.g.
  - land for farming, production facilities, and infrastructure
  - mineral resources, water, sun, wind
  - the environment for absorbing waste
- quantitative analysis: natural resources are …
  - … limited, e.g. grassland in Ostfriesland
  - … (nearly) unlimited, e.g. sand in the desert, sun, wind, tides
  - … exhaustible, e.g. crude oil and natural gas
  - … regenerative, e.g. wood and biomass
- qualitative analysis: it depends on what is technically feasible
  - e.g. solar technology and wind turbines

- natural resources, standard of living, and exports
  - high standard of living in Germany causes extensive wants and needs, thus a high demand for natural resources, e.g. crude oil and its derivatives
    - problem: demand excels natural resources available in Germany
    - solution: import
    - new problem: by what means should imports be paid?
    - short term solution (see Greece): running into international debts
    - long term solution: export of goods and services foreign countries are in demand for, keeping up a balance of imports and exports
    - new problem: German exports are expensive
    - solution: exporting high-tech, sophisticated services, and Veblen goods
  - result: Germany is vitally in need of exports for keeping up the standard of living

- capital assets
  - contributing to the business's ability to generate profit
    - benefits gained from the asset will extend beyond a time span of one year
    - including land, buildings, machinery, equipment, vehicles, software, etc.
  - quantitative analysis: changes in capital assets by …
    - … gross fixed capital formations (GFCF): value of acquisitions of new or existing fixed assets by the business sector, governments and ‘pure’ households (excluding their unincorporated enterprises), less disposals of fixed assets, plus value adding repairs
    - … net changes in inventories
    - … depreciation: loss in value of capital assets used, due to obsolescence and normal wear and tear

- development of capital assets
  - gross and net refers to adjustments made to deduct depreciation



Factors of Production

- quantitative analysis
  - firms invest when expecting an upturn in economy
  - changes in inventory level out short term fluctuations of demand
  - depreciation as kind of consumption of assets
- qualitative analysis
  - the quality of capital assets depends on what is intended to use them for, and this may change over time
    - e.g. gasometer in Oberhausen in the years 1960, 1990, and 2015

- group work
  - analyse the factor endowments in India and China in comparison with Germany

	quantity	quality
labour	workforce, working time	matching qualifications
natural resources	limited - unlimited exhaustible - regenerative	depending on technology
capital assets	permanent changes	depending on intended use

Micro and Macro – Fast Forward in 7 Chapters

Introduction

Market: Demand, Supply, Equilibrium, Prices

Market Structure

Classical and Keynesian Economics

Factors of Production

Sources of the Wealth of Nations: Division of Labour, Money

Economy in Figures

Sources of Wealth

- causes of prosperity
  - division of labour and work
  - industrialised mass production
  - international division of labour
  - money
  - (economic system)

Sources of Wealth: Division of Labour / Work

- Robinson Crusoe: no division of labour unless Friday appears
- Adam Smith (1723 - 1790)
  - ways to specialisation
    - division of labour: allocation of tasks to individuals
    - division of work: division of a large task, contract or project into smaller sub-tasks
  - the pin factory:
    - ”One man draws out the wire, another straights it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head: to make the head requires two or three distinct operations: to put it on is a particular business, to whiten the pins is another ... and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which in some manufactories are all performed by distinct hands, though in others the same man will sometime perform two or three of them.”

- advantages
  - Adam Smith recognized the increase in output
    - in a handcrafted production, one craftsman performs all the activities required during the production process
    - dividing the work into a set of simple and distinct tasks increases clearness and allows for standardisation as well as an effective management of quality
    - specialized workers with fitting skills perform better than all-round workers
    - simplified learning on the job
    - minimising set-up times
  - simplified automation of standardised sub tasks, instead of the whole process

- disadvantages
  - alienation from work, e.g. with assembly line work, lowers motivation and the worker's own initiative
  - specialisation may cause dependencies, e.g. from a big employer, and monocultures, e.g. in agriculture
  - specialisation may lead to upstream or downstream chain reactions
  - example: VW-monoculture in Niedersachsen
    - 7 plants with > 90.000 workers: Braunschweig, Emden, Hannover, Osnabrück, Rheine (MAN SE), Salzgitter, Wolfsburg
    - approx. 1 out of 7 jobs in production depends directly or indirectly (incl. suppliers) on VW

Sources of Wealth: Division of Labour / Work

SCHOOL OF INTERNATIONAL BUSINESS AND ENTREPRENEURSHIP
STEINBEIS UNIVERSITY BERLIN

MBA General Management

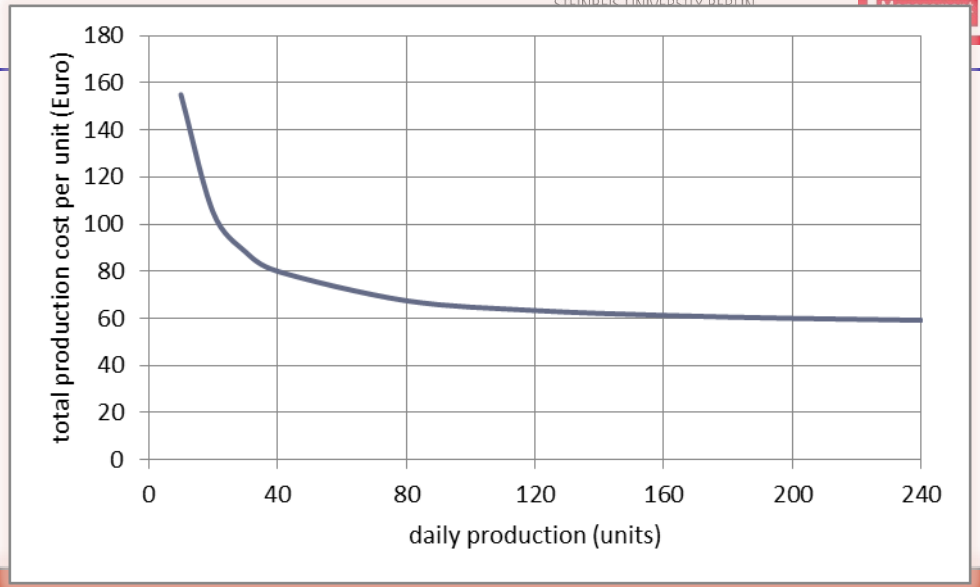
- individual work
  - how is division of labour realised in your company?
  - advantages, disadvantages?
  - report to the group

Sources of Wealth: Mass Production

- industrialised mass production
  - division of work structures the total task into sub tasks, thus easily enabling automation
  - change in cost structure by automation : less variable costs, more fixed costs
  - fixed cost degression
    - when increasing production, fixed costs will be spread over a larger number of units, which thus leads to lower costs per unit
    - maximal use of production capacity results in minimal costs per unit (Leontief production function)
  - positive economies of scale
    - general cost advantages that arise with increased output, e.g. volume discounts

SOURCES OF WEALTH: MASS PRODUCTION

- fixed cost degression



fixed cost degression									
daily production (units)	10	20	30	40	80	120	160	200	240
variable materials cost per unit (Euro)	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00	50,00
variable labour cost per unit (Euro)	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00
variable production cost per unit (Euro)	55,00	55,00	55,00	55,00	55,00	55,00	55,00	55,00	55,00
variable production cost per day (Euro)	550,00	1 100,00	1 650,00	2 200,00	4 400,00	6 600,00	8 800,00	11 000,00	13 200,00
fixed production cost per day (Euro)	1 000,00	1 000,00	1 000,00	1 000,00	1 000,00	1 000,00	1 000,00	1 000,00	1 000,00
total production cost per day (Euro)	1 550,00	2 100,00	2 650,00	3 200,00	5 400,00	7 600,00	9 800,00	12 000,00	14 200,00
total production cost per unit (Euro)	155,00	105,00	88,33	80,00	67,50	63,33	61,25	60,00	59,17

- international division of labour
  - Adam Smith: absolute advantage
    - "If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry employed in a way in which we have some advantage."
  - David Ricardo (1772 - 1823): comparative advantage
    - assumption: two countries think about specialisation and trade, but one of them is producing every good with less effort than the other
    - Adam Smith: there is no reason to specialise if one country has absolute advantages with all products
    - David Ricardo: specialisation may (!) work, if the cheaper country concentrates production on the good with the comparatively highest absolute advantage

- absolute advantage (Adam Smith)
  - England enjoys an absolute advantage with cloth
  - Portugal enjoys an absolute advantage with wine
  - England should specialise on cloth, Portugal on wine

production without specialisation					
	hours of work available	hours of work to produce one unit		produced units	
		cloth	wine	cloth	wine
England	220,00	100,00	120,00	1,000	1,000
Portugal	170,00	110,00	60,00	1,000	1,000
absolute advantage for:		England (9,09%)	Portugal (50,00%)	sum: 2,000	sum: 2,000

- specialisation with absolute advantage

production with specialisation (1)					
	hours of work available	hours of work to produce one unit		produced units	
		cloth	wine	cloth	wine
England	220,00	220,00	0,00	2,200	0,000
Portugal	170,00	0,00	170,00	0,000	2,833
				sum: 2,200	sum: 2,833

production with specialisation (2)					
	hours of work available	hours of work to produce one unit		produced units	
		cloth	wine	cloth	wine
England	220,00	0,00	220,00	0,000	1,833
Portugal	170,00	170,00	0,00	1,545	0,000
				sum: 1,545	sum: 1,833

- comparative advantage (David Ricardo)
  - Portugal enjoys absolute advantages with both goods
  - is there any reason for (cheap) Portugal to trade with (expensive) England?

production without specialisation					
	hours of work available	hours of work to produce one unit		produced units	
		cloth	wine	cloth	wine
England	220,00	100,00	120,00	1,000	1,000
Portugal	170,00	90,00	80,00	1,000	1,000
absolute advantage for:		Portugal (10,00%)	Portugal (33,33%)	sum: 2,000	sum: 2,000

- specialisation with comparative advantage

production with specialisation (1)					
	hours of work available	hours of work to produce one unit		produced units	
		cloth	wine	cloth	wine
England	220,00	220,00	0,00	2,200	0,000
Portugal	170,00	0,00	170,00	0,000	2,125
				sum: 2,200	sum: 2,125

production with specialisation (2)					
	hours of work available	hours of work to produce one unit		produced units	
		cloth	wine	cloth	wine
England	220,00	0,00	220,00	0,000	1,833
Portugal	170,00	170,00	0,00	1,889	0,000
				sum: 1,889	sum: 1,833

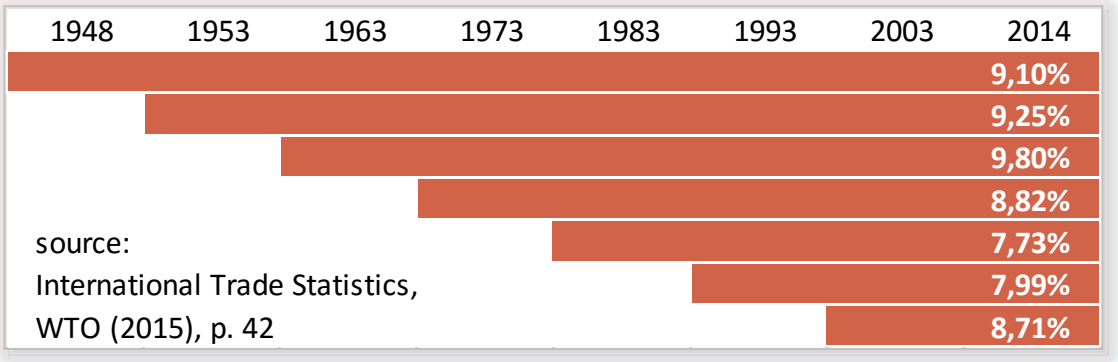
Sources of Wealth: Int. Division of Labour

- comparative advantage: several assumptions, e.g.:
  - wages per working hour are equivalent in England and Portugal
  - no restrictions in shifting production capacities
  - workers are equally skilled for any kind of production
  - domestic factors of production are mobile, but not transferable into foreign countries
  - no increase in efficiency by economies of scale
  - neither transaction nor transportation cost
  - trading partners agree on a reasonable price for traded goods

- globalisation: international division of labour and work at its best
  - global integration of people, processes, services, information and capital
  - „International operierende Unternehmen müssen heute anders agieren als früher.“ (*Nowadays, global companies have to operate differently*)
    - Dieter Hundt, president of ‘Bundesvereinigung der Deutschen Arbeitgeberverbände’ (BDA), at a press conference after the traditional meeting of leading German managers with Chancellor Angela Merkel, Munich 29.02.2008
    - the question was: why do big German companies, although facing enormous profits, dismiss workers and shift production facilities to foreign countries?
- group work
  - Dieter Hundt’s answer is a typical ‘political’ answer, but what may have been the matter behind his words?

Sources of Wealth: Int. Division of Labour

- waves of globalisation
  - first tendencies of globalisation in the antique world and the Roman empire
  - first wave from 1870 until WW I
  - second wave since the end of WW II



Sources of Wealth: Int. Division of Labour

- what is driving globalisation?
  - significant improvements in transport, information and communication technologies (structural change)
    - propelled by cheaper and faster transportation, more innovative information technology
  - changes in individual tastes and preferences enabling greater choice and variety of goods and services
  - multinational Firms and their influence of economic and financial policy
  - changes in government policy
    - reduction in protection and trade barriers
    - participation of BRICS countries
  - despite Euro-crisis: leading currencies still going strong

Sources of Wealth: Int. Division of Labour

- impact of globalisation on developing countries
  - developing countries specialise on labour-intensive low-tech production
  - import of high-tech products and sophisticated services
  - industrialisation, economic growth, and rapidly developing societies
  - emerging countries produce more and more high-tech by themselves, at eye level with the ‘old’ industrial nations

- impact of globalisation on ‚old' industrial nations
  - reorganisation at the international, national and sub-national levels
    - traditional industries disappear
    - unemployment for less educated and low-skilled workers
    - increasing demand for highly qualified staff
    - boom in import-export business
    - increasing importance of logistics
  - falling prices for globalised products
  - increasing competition for rare natural resources causes increasing prices
  - „Stillstand ist der Tod, geh voran, bleibt alles anders" – "deadlock is death, move on, everything stays differently" (Herbert Grönemeyer, „Bleibt alles anders", 1998)

world merchandise exports	1948	1953	1963	1973	1983	1993	2003	2014
	bn. US-$							
World	59	84	157	579	1 838	3 684	7 380	18 494
	percentage (%)							
North America	*28,1*	*24,8*	*19,9*	*17,3*	*16,8*	*18,0*	*15,8*	*13,5*
United States	21,7	18,8	14,9	12,3	11,2	12,6	9,8	8,8
Canada	5,5	5,2	4,3	4,6	4,2	3,9	3,7	2,6
Mexico	0,9	0,7	0,6	0,4	1,4	1,4	2,2	2,1
South- and Central America	*11,3*	*9,7*	*6,4*	*4,3*	*4,5*	*3,0*	*3,0*	*3,8*
Brazil	2,0	1,8	0,9	1,1	1,2	1,0	1,0	1,2
Argentina	2,8	1,3	0,9	0,6	0,4	0,4	0,4	0,4
Europe	*35,1*	*39,4*	*47,8*	*50,9*	*43,5*	*45,3*	*45,9*	*36,8*
Germany	1,4	5,3	9,3	11,7	9,2	10,3	10,2	8,2
France	3,4	4,8	5,2	6,3	5,2	6,0	5,3	3,2
Italy	1,8	1,8	3,2	3,8	4,0	4,6	4,1	2,9
CIS, until 1983: USSR	2,2	3,5	4,6	3,7	5,0	1,5	2,6	4,0
Africa	*7,3*	*6,5*	*5,7*	*4,8*	*4,5*	*2,5*	*2,4*	*3,0*
South Africa	2,0	1,6	1,5	1,0	1,0	0,7	0,5	0,5
Middle East	2,0	2,7	3,2	4,1	6,7	3,5	4,1	7,0
Asia, Australia	*14,0*	*13,4*	*12,5*	*14,9*	*19,1*	*26,0*	*26,1*	*32,0*
China	0,9	1,2	1,3	1,0	1,2	2,5	5,9	12,7
Japan	0,4	1,5	3,5	6,4	8,0	9,8	6,4	3,7
India	2,2	1,3	1,0	0,5	0,5	0,6	0,8	1,7
Australia, New Zealand	3,7	3,2	2,4	2,1	1,4	1,4	1,2	1,5
6 East Asian Tigers	3,4	3,0	2,5	3,6	5,8	9,6	9,6	9,6

source: International Trade Statistics, WTO (2015), p. 42

- world merchandise exports

source: International Trade Statistics, WTO (2015), p. 42 www.wto.org, retrieved 11.02.2016

Sources of Wealth: Int. Division of Labour

- group work
  - analyse the WTO-data on globalisation
  - who are the winners, who the losers of globalisation?

Sources of Wealth: Int. Division of Labour

- globalisation outlook for Germany
  - up to now Germany is the global winner in globalisation
    - economic development after WW II by integration into international trade
    - export champion 2003-2008, export as growth driver
- best-case scenario: keeping up the technology-gap
  - expensive high-tech ‘made in Germany’ skims world markets
  - full employment in a knowledge-based society

- worst-case scenario: vanishing of the technology-gap
  - emerging countries develop to leading industrial nations, exporting cheap mass products as well as high-tech goods
  - falling wages to keep up competitiveness, decreasing standard of living, emerging mass unemployment, collapse of the social welfare state

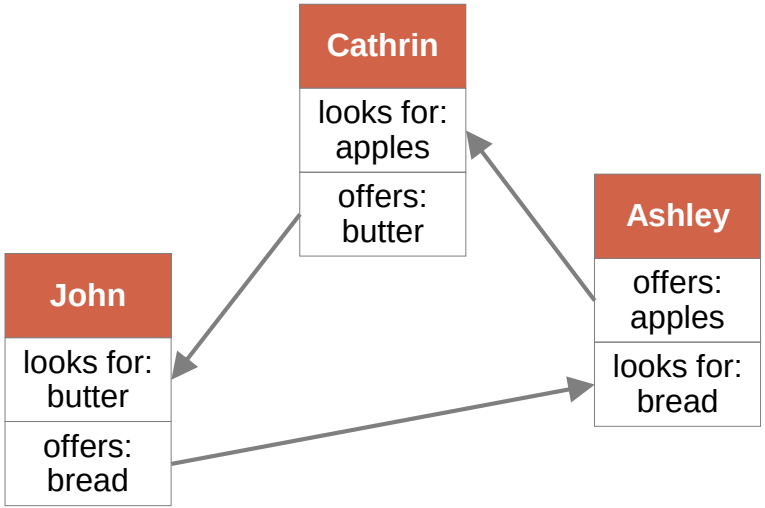
- division of work and labour needs trade
  - simplest way: direct exchange of goods (barter)
    - simultaneously, no money needed
    - exchange ratio for any combination of goods
  - barter needs organisation
    - agreement on place and time for exchange
  - confusing because of huge number of exchange ratios
    - n (n-1) / 2 (n: number of goods)
    - e.g. with n = 50 000: 1 249 975 000 exchange ratios

Ein Berliner Schwarzmarkt, 1945

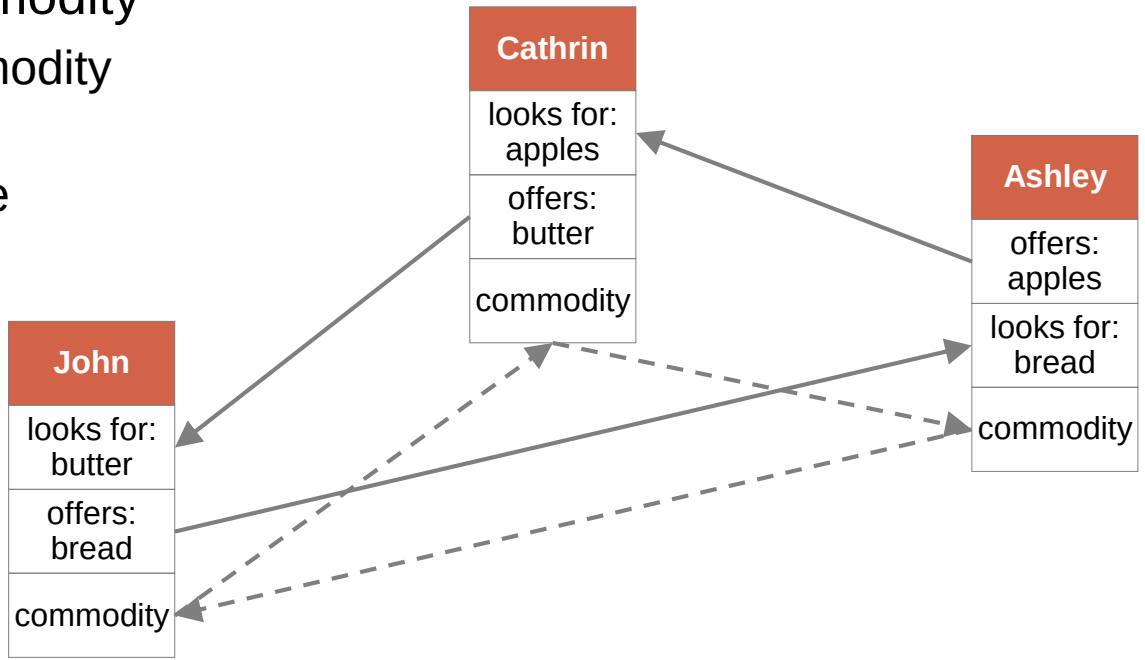
source: http://www.dhm.de/lemo/forum/kollektives_gedaechtnis/010/index.html

- bilateral barter
  - double coincidence: bilateral fitting exchange needs
  - in stone-age societies only (?)

- multilateral barter
  - simultaneous exchange of more than two goods
  - need of barter organisation and networking



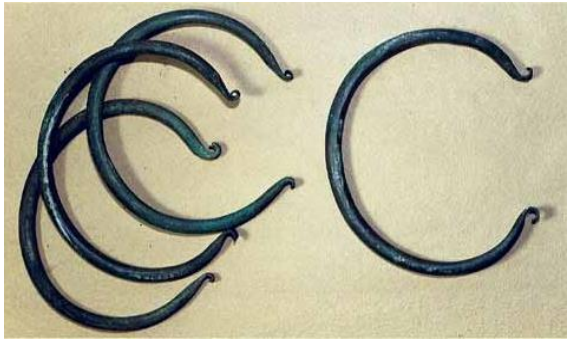
- exchange involving a commodity
  - exchanging good for commodity and commodity for good
  - lesser number of exchange ratios (= n – 1)
  - e.g. cigarettes in Germany 1945, ‘Koffer’ in German prisons, or cans of mackerel fish fillets in US prisons (after prohibition of smoking)



- 7 steps from commodities to money
  - step 1: society agrees on a commodity with value in itself as well as value in its use for exchange, being …
    - … useful for everyday life
    - … transportable and dividable
    - ... countable or measurable
    - … storable to keep purchase power for separating buying from selling
  - treating this commodity as commodity money

picture: cocoa beans, commodity money of the Aztec economy (© ZEIT online 2.11.2006)

- 7 steps from commodities to money
  - step 2: all kind of rare or precious metals as commodity money because of low durability of other materials
    - first important abstraction: commodity goods with no direct use in everyday life



picture: Ösenringbarren (2300 – 2000 B.C.) smelted and forged copper, approx. 200,0 g (www.geldgeschichte.de)

- 7 steps from commodities to money
  - step 3: labelling of metals for signalling quality and quantity
    - coins from silver, gold, and other metals with imprints on the front and / or the back side

picture: coins (appr. 550 B.C.) with the emblem of the Lydien king Croesus (© ZEIT online 2.11.2006)

- 7 steps from commodities to money
  - step 4: production and control of coins by the sovereign only
    - severe fines for counterfeiting coins with lower quality or less weight
    - sovereign gets remarkable influence on the economic system by controlling the amount of circulating coins

picture: Mainzer Goldgulden, approx. 1400 (© ZEIT online 2.11.2006)

- 7 steps from commodities to money
  - step 5: commodity money mutate into in instrument of payment
    - transfer of coins not only in exchange for goods, but also to compensate for any kind of obligations, even if they did not arise from trading and exchanging, e.g. tax obligations

picture: Silberpfennige with imprint on the front side only (middle of 13. century), found near Lake Constance (www.fundmuenzen.ch)

- 7 steps from commodities to money
  - step 6: replacing commodity money by representative money
    - certificate or token with nearly no value, which can be exchanged for the underlying commodity in a given ratio
    - even stricter control needed to minimise counterfeits
  - gold standard
    - one unit of representative money is based on a fixed quantity of gold and the authorities agree to sell gold bullion on demand at a fixed exchange ratio
    - money supply restricted by reserves in gold (or other precious metals), thus restricting monetary policy too
    - introduced in the 1870th in most industrial nations
    - simplifying international trade (first wave of globalisation)

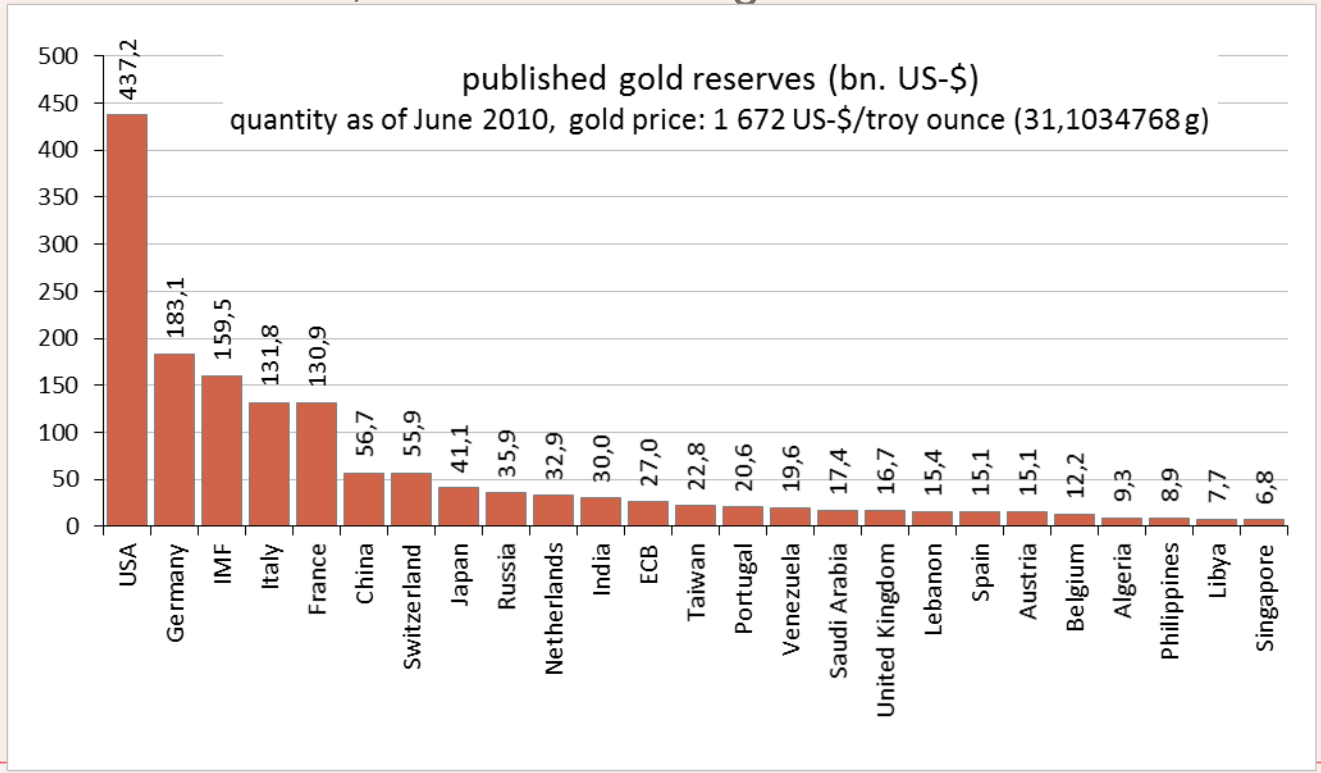
picture: coins of Weimar Republic (www.geldgeschichte.de)

- 7 steps from commodities to money
  - step 7: step by step development from a gold standard to a partially backed gold standard, and later to completely unbacked money
    - second important abstraction: coins and notes do not represent value any longer, no exchange into gold or other precious metals
    - common acceptance of the purchase power of unbacked money (fiat money)
    - central banks use monetary policy to stimulate and control the economy
    - exchange rates result from supply and demand on foreign exchanges and are no longer determined by a nations gold reserves

picture: modern fiat money
(© ZEIT online 2.11.2006)

- published gold reserves of states, international organisations and central banks (bn. US $)

source: World Gold Council



- monetary policy
  - strict control of the production of money
  - calculating money supply according to economic, not political requirements
    - separating monetary politics from government
    - preventing inflation and deflation
  - economies shift back to commodity money if people do not trust fiat money an longer

picture: inflation money (1923) (© ZEIT online 2.11.2006)

- inflation
  - sustained increase in the general price level, i.e. all prices (not only for particular goods) rise
    - low inflation: process of rising nominal prices is protracted and not generally noticeable (annual rate above zero, but below 2% p.a.)
    - hyper-inflation: rapid and continuing increase in nominal prices (the cumulative rate over three years approaches, or exceeds, 100%)
  - frequent cause: increase in money supply
    - more money makes a market
    - if producers are not able to rise output instantly, a higher demand meets a sticky supply
    - excess demand leads to higher prices
    - secondary effects let the general price level rise

- hyperinflations in history
  - 25 out of 29 hyperinflations in history started by money creation to finance governmental budget deficits
  - first experience with fiat money and hyperinflation in 13th century China
    - printing notes to finance wars
  - 'price revolution' in Spain and Portugal between end of 15th and middle of 17th century
    - cause: sudden influx of huge amounts of gold from the New World
  - deep experience with inflation in Germany from 1914 to 1923
    - causes: printing notes to finance WW I and government budget deficits at the beginning of the 1920th

- impacts of inflation
  - short term losses in purchasing power
    - increases in payments to workers and pensioners often lag behind inflation
  - hidden tax increases
    - inflated earnings push taxpayers into higher income tax rates unless the tax brackets are indexed to inflation
  - savers in hell?
    - with a negative real interest rate savers are losing purchase power
  - debtors in heaven?
    - unexpected increases in the inflation rate let the real interest rate decrease
    - adjustment by including an inflation risk premium, or lending at an adjustable rate
    - nominal debt remains constant while income increases, hence real debt melts down

- impacts of inflation
  - hoarding
    - people buy durable and/or non-perishable commodities and other goods as stores of wealth, to avoid the losses expected from the declining purchasing power of money, creating shortages of the hoarded goods
  - cost push
    - to keep up purchase power, high inflation leads employees and unions to bargain for rising wages
    - secondary effects let the general price level rise (wage spiral)
  - shoe leather costs
    - high inflation induce people to hold a greater portion of their assets in interest paying accounts
    - if cash is needed for transactions, more ‘trips to the bank’ are necessary to make withdrawals

- impacts of inflation
  - menu costs
    - often changing prices is itself a costly activity whether explicitly, as with the need to print new menus, or implicitly, as with the extra time and effort needed to change prices constantly
  - dollarization
    - abandonment of the use of the country's currency and the adoption of an external currency, e.g. US-$
  - social unrest and revolts
    - inflation and in particular food inflation, leading to falling purchasing power, is considered as one of the main reasons for social unrest in developing countries

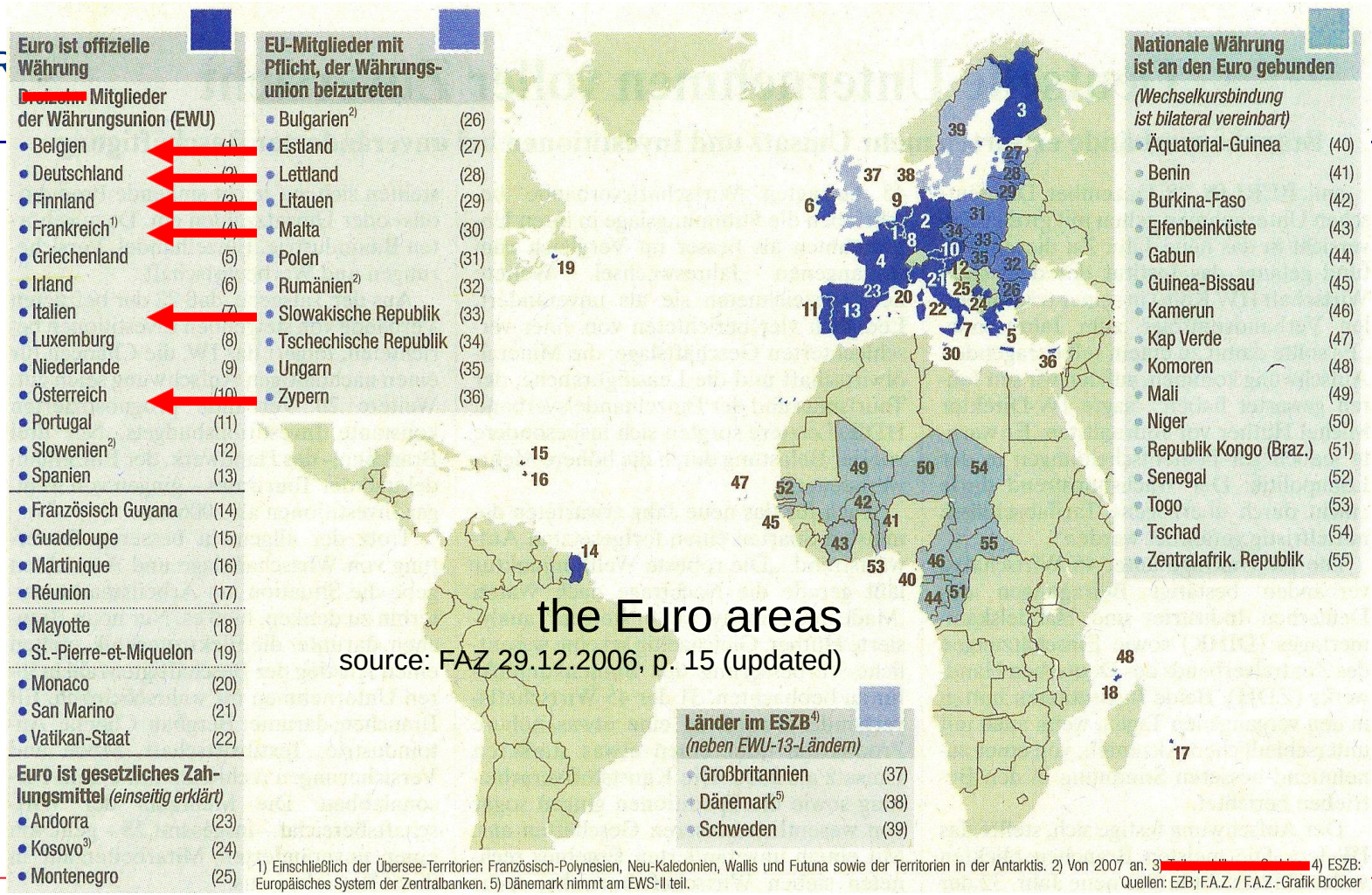
- deflation
  - sustained decrease in the general price level, i.e. all prices (not only for particular goods) fall
  - bad deflation
    - lack of demand in a situation of common pessimism, e.g. a sustaining crisis, or resulting from a restrictive monetary policy (monetary deflation)
  - good deflation
    - advances in technology bring about falling production costs and falling prices, hence an supply increases
  - impact of falling prices
    - remarkable impact on durable goods, less impact on day to day consumer goods
    - nominal debt remains constant while prices decrease, hence real debt rises

- bad deflation
  - e.g. ‘great depression’ in the US, 1929-33, and the ‘lost decade’ in Japan since beginning of the 1990th
  - cause
    - buyers do not buy because they have negative expectations
  - effect
    - deflationary spiral as a vicious circle: a lack of demand causes prices to decrease, which leads to lower production, which in turn leads to lower wages, unemployment, and lower demand, which then leads to further decreases in price …
    - burying money: without the hidden risk of inflation, it is more prudent to hold on to money, and not to spend or invest it
    - no impact of monetary policy: falling interest rates and increasing money supply do not push demand
    - ‘cash is king’: positive real interest rate on cash, even with a nominal interest rate of zero

- good deflation
  - e.g. in Germany between 1848 and 1873 (‘Gründerjahre’)
  - cause
    - prices fall because of technological progress
  - effect
    - innovation and automation lead to increases in efficiency, lower production cost, and falling prices, hence making goods affordable to a greater number of buyers
    - positive expectations and increasing demand
    - increasing demand allows for investments to expand production capacities, which leads to increasing production and higher employment
    - economic growth and prosperity

the Euro areas

source: FAZ 29.12.2006, p. 15 (updated)



SOURCES OF WEALTH - MONEY

- group work
  - describe the difference between the former European Monetary System (each country its own currency) in Europe, the US-$ in the US federal system, and the Euro in Europe
  - some German politicians argue that the Euro features a birth-defect, why?
  - why is it more or less impossible to dismiss weak members like e.g. Greece from the Euro system?
  - regarding the situation in Germany since 2001: do the German economy benefit from the Euro or not?
  - why does the German state treat it as a moral commitment to bail for Greek debts? (total amount of guarantees: approx. 169 bn. Euro)

Micro and Macro – Fast Forward in 7 Chapters

Introduction

Market: Demand, Supply, Equilibrium, Prices

Market Structure

Classical and Keynesian Economics

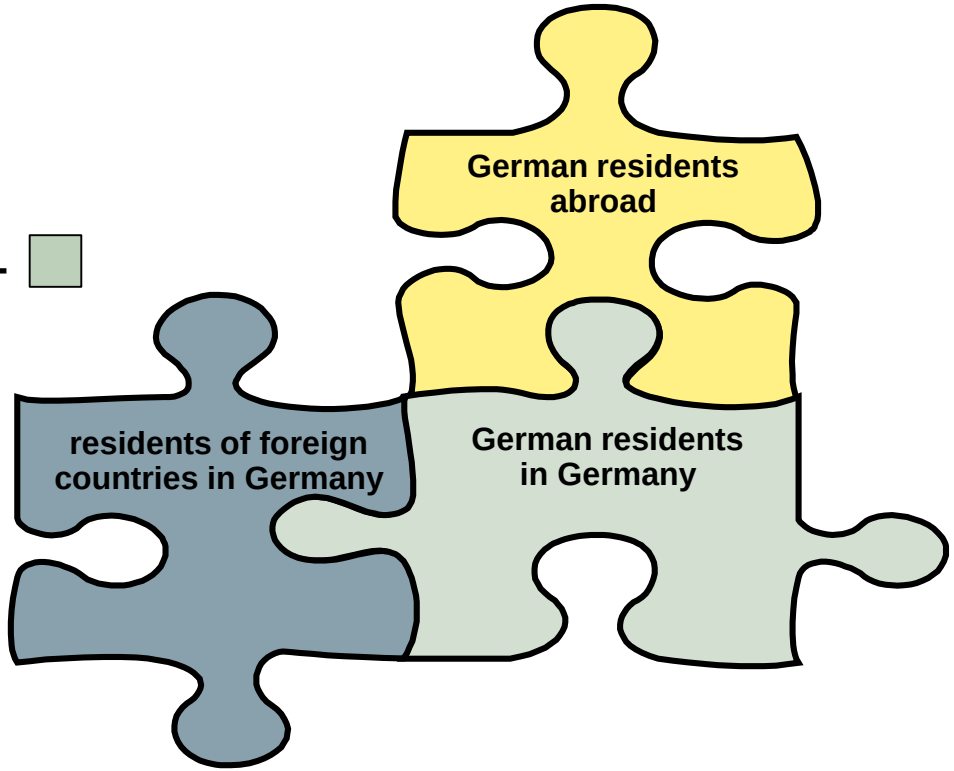
Factors of Production

Sources of the Wealth of Nations: Division of Labour, Money

Economy in Figures

- system of national accounts
  - describing economic activities of every unit of a national economy
  - used to analyse and aggregate the numerous aspects of the elementary actions in an economy
    - production approach: classification by industries
    - expenditure approach: classification by sectors, essentially households and legal or social entities (corporations, government, non-profit institutions serving households NPISHs)
  - total economy is described by …
    - … the concept of economic territory: what's going on in Germany? ('Germany' mainly incudes the geographical territory)
    - … the concept of residence: what are German residents doing worldwide? ('resident' refers to the centre of predominant economic interest, independent from citizenship)

- total economy
  - concept of residence +
  - concept of economic territory +



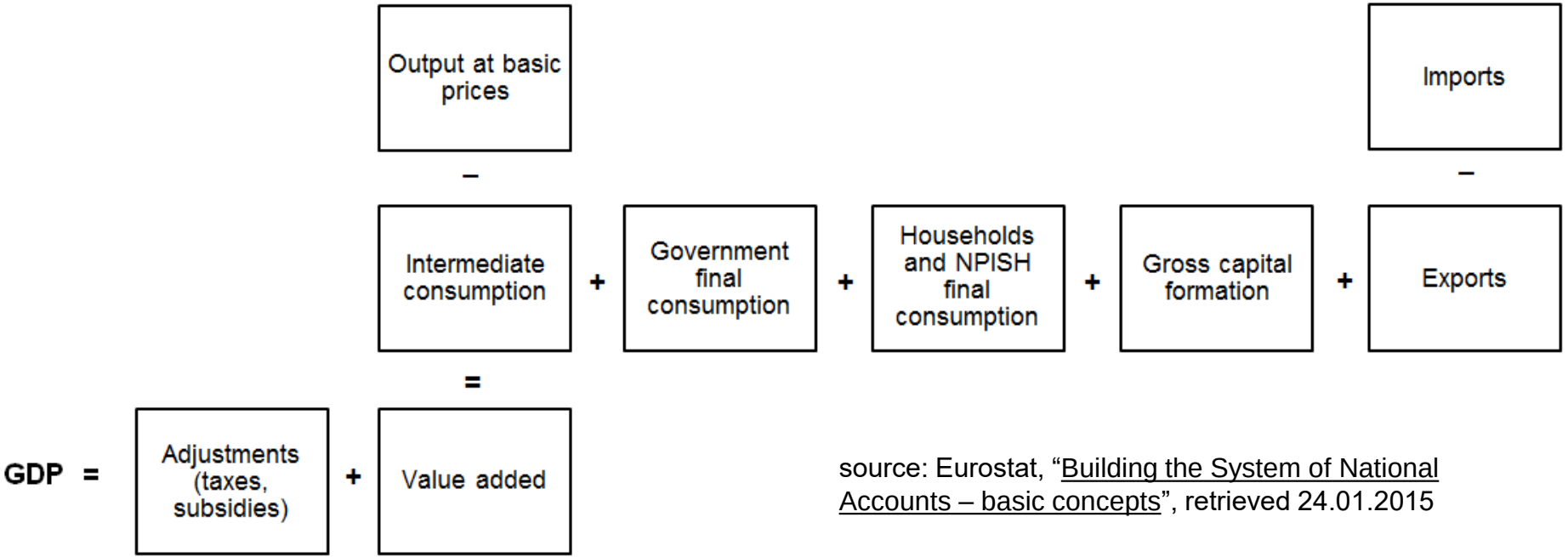
Production Approach (1)	Expenditure Approach (2)	Income Approach (3)
+ Sum of values added at basic prices of all producers + Taxes on products - Subsidies on products	+ Final consumption expenditure + Gross fixed capital formation + Changes in inventories + Exports of goods & services - Imports of goods & services	+ Compensation of employees + Taxes on production and imports - Subsidies + Operating surplus / mixed income
= Gross domestic product (GDP) at market prices (I) – Consumption of fixed capital = Net domestic product		
(I) + Primary incomes receivable from the rest of the world – Primary incomes payable to the rest of the world		
= Gross national income (GNI) at market prices (II) – Consumption of fixed capital = Net national income at market prices		Can also be calculated as the sum of the balance of primary incomes of all institutional sectors.
(II) + Current transfers receivable from the rest of the world – Current transfers payable to the rest of the world		
= Gross national disposable income at market prices (III) – Consumption of fixed capital = Net national disposable income at market prices		Can also be calculated as the sum of the disposable incomes of all institutional sectors.

concept of economic territory

concept of residence

source: Eurostat, "Building the System of National Accounts – basic concepts", retrieved 24.01.2015

- calculating gross value added (GVA) and gross domestic product (GDP)



source: Eurostat, "Building the System of National Accounts – basic concepts", retrieved 24.01.2015

ECONOMY IN FIGURES

- gross value added GVA (yearly)

GVA at current prices										
year, quarter	total		agriculture, forestry, and fishing		production, excluding construction		construction		services (total)	
bn. Euro and change on preceding year (resp. on the same period of the preceding year) in %										
1991	1 437,01		16,79		444,66		85,58		889,97	
1992	1 540,51	*7,2*	16,36	*-2,6*	451,33	*1,5*	102,03	*19,2*	970,79	*9,1*
1993	1 586,08	*3,0*	16,02	*-2,1*	428,54	*-5,0*	107,86	*5,7*	1 033,66	*6,5*
1994	1 652,41	*4,2*	16,98	*6,0*	437,61	*2,1*	116,59	*8,1*	1 081,23	*4,6*
1995	1 720,80	*4,1*	17,98	*5,8*	449,10	*2,6*	117,16	*0,5*	1 136,57	*5,1*
1996	1 746,61	*1,5*	19,12	*6,4*	445,43	*-0,8*	111,07	*-5,2*	1 170,99	*3,0*
1997	1 785,04	*2,2*	19,34	*1,1*	455,84	*2,3*	106,85	*-3,8*	1 203,02	*2,7*
1998	1 829,66	*2,5*	18,80	*-2,8*	471,57	*3,5*	102,43	*-4,1*	1 236,86	*2,8*
1999	1 862,04	*1,8*	18,85	*0,3*	472,54	*0,2*	101,13	*-1,3*	1 269,52	*2,6*
2000	1 909,24	*2,5*	20,17	*7,0*	492,50	*4,2*	97,58	*-3,5*	1 298,98	*2,3*
2001	1 969,93	*3,2*	22,66	*12,3*	500,64	*1,7*	92,59	*-5,1*	1 354,04	*4,2*
2002	1 998,34	*1,4*	18,91	*-16,5*	497,59	*-0,6*	89,20	*-3,7*	1 392,64	*2,9*
2003	2 005,06	*0,3*	17,38	*-8,1*	501,24	*0,7*	85,25	*-4,4*	1 401,19	*0,6*
2004	2 057,63	*2,6*	20,62	*18,6*	522,41	*4,2*	82,85	*-2,8*	1 431,75	*2,2*
2005	2 082,09	*1,2*	15,80	*-23,4*	531,79	*1,8*	80,29	*-3,1*	1 454,21	*1,6*
2006	2 164,97	*4,0*	16,89	*6,9*	569,35	*7,1*	82,83	*3,2*	1 495,90	*2,9*
2007	2 261,36	*4,5*	18,67	*10,5*	603,16	*5,9*	87,27	*5,4*	1 552,26	*3,8*
2008	2 304,67	*1,9*	20,62	*10,4*	601,61	*-0,3*	91,25	*4,6*	1 591,19	*2,5*
2009	2 207,24	*-4,2*	16,25	*-21,2*	522,49	*-13,2*	91,30	*0,1*	1 577,21	*-0,9*
2010	2 321,70	*5,2*	16,70	*2,8*	600,44	*14,9*	99,84	*9,4*	1 604,71	*1,7*
2011	2 428,08	*4,6*	19,97	*19,6*	635,68	*5,9*	106,50	*6,7*	1 665,92	*3,8*
2012	2 475,12	*1,9*	19,10	*-4,3*	651,19	*2,4*	111,12	*4,3*	1 693,71	*1,7*
2013	2 536,86	*2,5*	20,04	*4,9*	655,53	*0,7*	113,33	*2,0*	1 747,97	*3,2*
2014	2 623,09	*3,4*	17,90	*-10,7*	674,79	*2,9*	120,74	*6,5*	1 809,66	*3,5*
2015	2 722,66	*3,8*	15,03	*-16,1*	701,18	*3,9*	128,09	*6,1*	1 878,36	*3,8*

source: www.destatis.de, Fachserie 18, Reihe 1.2, retrieved 22.03.2016

- GVA (quarterly)

GVA at current prices										
year, quarter		total		agriculture, forestry, and fishing		production, excluding construction		construction		services (total)	
		bn. Euro and change on preceding year (resp. on the same period of the preceding year) in %									
2011	Q1	593,77	*6,3*	5,02	*57,1*	156,38	*10,0*	20,47	*11,3*	411,90	*4,3*
	Q2	598,28	*4,9*	5,49	*53,6*	158,10	*6,4*	26,48	*2,2*	408,21	*4,1*
	Q3	620,15	*4,3*	5,03	*4,8*	161,98	*6,2*	28,74	*4,3*	424,41	*3,6*
	Q4	615,88	*2,9*	4,43	*-13,7*	159,23	*1,3*	30,82	*10,1*	421,41	*3,3*
2012	Q1	611,03	*2,9*	4,31	*-14,2*	164,42	*5,1*	22,35	*9,2*	419,95	*2,0*
	Q2	609,30	*1,8*	4,61	*-16,1*	162,41	*2,7*	27,75	*4,8*	414,54	*1,5*
	Q3	630,46	*1,7*	5,06	*0,7*	164,29	*1,4*	30,08	*4,7*	431,03	*1,6*
	Q4	624,33	*1,4*	5,12	*15,7*	160,07	*0,5*	30,95	*0,4*	428,18	*1,6*
2013	Q1	614,36	*0,5*	5,26	*21,9*	159,73	*-2,9*	21,19	*-5,2*	428,19	*2,0*
	Q2	627,19	*2,9*	5,33	*15,8*	165,12	*1,7*	28,45	*2,5*	428,29	*3,3*
	Q3	649,32	*3,0*	4,62	*-8,8*	166,16	*1,1*	31,31	*4,1*	447,24	*3,8*
	Q4	645,99	*3,5*	4,83	*-5,7*	164,52	*2,8*	32,39	*4,6*	444,25	*3,8*
2014	Q1	642,97	*4,7*	4,98	*-5,2*	167,23	*4,7*	24,57	*16,0*	446,18	*4,2*
	Q2	645,13	*2,9*	5,11	*-4,2*	167,81	*1,6*	30,04	*5,6*	442,17	*3,2*
	Q3	669,47	*3,1*	4,21	*-8,9*	171,10	*3,0*	32,55	*4,0*	461,61	*3,2*
	Q4	665,53	*3,0*	3,60	*-25,5*	168,65	*2,5*	33,57	*3,7*	459,70	*3,5*
2015	Q1	664,31	*3,3*	3,65	*-26,8*	172,53	*3,2*	25,41	*3,4*	462,72	*3,7*
	Q2	669,75	*3,8*	3,81	*-25,4*	175,34	*4,5*	31,41	*4,6*	459,19	*3,8*
	Q3	694,17	*3,7*	3,80	*-9,7*	177,57	*3,8*	34,35	*5,5*	478,45	*3,6*
	Q4	694,43	*4,3*	3,77	*4,6*	175,73	*4,2*	36,92	*10,0*	478,01	*4,0*

source: www.destatis.de, Fachserie 18, Reihe 1.2, retrieved 22.03.2016

use of GDP at current prices

year, quarter	GDP		consumption						gross capital formation		balance of trade	exports		imports	
			total		private consumption		governmental consumption								
	bn. Euro and change on preceding year (resp. on the same period of the preceding year) in %														
1991	1 579,80		1 183,70		890,69		293,01		404,24		−8,13	374,88		383,02	
1992	1 695,32	*7,3*	1 281,06	*8,2*	958,46	*7,6*	322,60	*10,1*	423,12	*4,7*	−8,86	377,44	*0,7*	386,30	*0,9*
1993	1 748,55	*3,1*	1 334,56	*4,2*	1 000,41	*4,4*	334,15	*3,6*	412,86	*-2,4*	1,13	355,91	*-5,7*	354,78	*-8,2*
1994	1 830,29	*4,7*	1 390,48	*4,2*	1 041,55	*4,1*	348,93	*4,4*	436,21	*5,7*	3,61	386,83	*8,7*	383,23	*8,0*
1995	1 898,88	*3,7*	1 439,18	*3,5*	1 075,61	*3,3*	363,56	*4,2*	450,82	*3,3*	8,89	417,88	*8,0*	408,99	*6,7*
1996	1 926,32	*1,4*	1 472,56	*2,3*	1 098,76	*2,2*	373,80	*2,8*	437,95	*-2,9*	15,81	441,29	*5,6*	425,49	*4,0*
1997	1 967,09	*2,1*	1 495,66	*1,6*	1 121,24	*2,0*	374,43	*0,2*	448,16	*2,3*	23,27	499,48	*13,2*	476,21	*11,9*
1998	2 018,23	*2,6*	1 520,46	*1,7*	1 141,19	*1,8*	379,27	*1,3*	471,05	*5,1*	26,72	533,89	*6,9*	507,17	*6,5*
1999	2 064,88	*2,3*	1 565,45	*3,0*	1 174,83	*2,9*	390,63	*3,0*	484,71	*2,9*	14,72	558,37	*4,6*	543,65	*7,2*
2000	2 116,48	*2,5*	1 604,45	*2,5*	1 209,43	*2,9*	395,03	*1,1*	506,33	*4,5*	5,70	652,50	*16,9*	646,81	*19,0*
2001	2 179,85	*3,0*	1 655,00	*3,2*	1 250,35	*3,4*	404,65	*2,4*	486,41	*-3,9*	38,44	694,73	*6,5*	656,29	*1,5*
2002	2 209,29	*1,4*	1 672,56	*1,1*	1 256,55	*0,5*	416,01	*2,8*	440,07	*-9,5*	96,66	719,66	*3,6*	623,00	*-5,1*
2003	2 220,08	*0,5*	1 701,66	*1,7*	1 280,87	*1,9*	420,79	*1,2*	437,08	*-0,7*	81,34	723,56	*0,5*	642,22	*3,1*
2004	2 270,62	*2,3*	1 722,00	*1,2*	1 303,05	*1,7*	418,95	*-0,4*	434,16	*-0,7*	114,46	804,90	*11,2*	690,44	*7,5*
2005	2 300,86	*1,3*	1 751,55	*1,7*	1 328,55	*2,0*	423,00	*1,0*	432,90	*-0,3*	116,42	868,36	*7,9*	751,94	*8,9*
2006	2 393,25	*4,0*	1 793,24	*2,4*	1 362,84	*2,6*	430,40	*1,7*	473,21	*9,3*	126,81	985,79	*13,5*	858,98	*14,2*
2007	2 513,23	*5,0*	1 824,64	*1,8*	1 384,90	*1,6*	439,74	*2,2*	521,48	*10,2*	167,11	1 080,94	*9,7*	913,83	*6,4*
2008	2 561,74	*1,9*	1 874,30	*2,7*	1 416,73	*2,3*	457,57	*4,1*	534,38	*2,5*	153,06	1 113,33	*3,0*	960,27	*5,1*
2009	2 460,28	*-4,0*	1 894,25	*1,1*	1 413,04	*-0,3*	481,21	*5,2*	444,51	*-16,8*	121,52	930,04	*-16,5*	808,52	*-15,8*
2010	2 580,06	*4,9*	1 939,61	*2,4*	1 446,27	*2,4*	493,34	*2,5*	506,35	*13,9*	134,10	1 090,09	*17,2*	955,98	*18,2*
2011	2 703,12	*4,8*	2 001,22	*3,2*	1 495,53	*3,4*	505,69	*2,5*	569,75	*12,5*	132,15	1 211,49	*11,1*	1 079,34	*12,9*
2012	2 754,86	*1,9*	2 056,54	*2,8*	1 533,83	*2,6*	522,71	*3,4*	530,60	*-6,9*	167,72	1 266,92	*4,6*	1 099,20	*1,8*
2013	2 820,82	*2,4*	2 104,64	*2,3*	1 562,70	*1,9*	541,94	*3,7*	546,77	*3,0*	169,41	1 283,14	*1,3*	1 113,73	*1,3*
2014	2 915,65	*3,4*	2 156,21	*2,5*	1 592,16	*1,9*	564,05	*4,1*	563,06	*3,0*	196,38	1 333,19	*3,9*	1 136,81	*2,1*
2015	3 025,90	*3,8*	2 220,08	*3,0*	1 633,39	*2,6*	586,69	*4,0*	569,72	*1,2*	236,10	1 419,61	*6,5*	1 183,51	*4,1*

source: www.destatis.de, Fachserie 18, Reihe 1.2, data by 01/2016, retrieved 22.03.2016

ECONOMY IN FIGURES

SCHOOL OF INTERNATIONAL BUSINESS AND ENTREPRENEURSHIP
STEINBEIS UNIVERSITY BERLIN

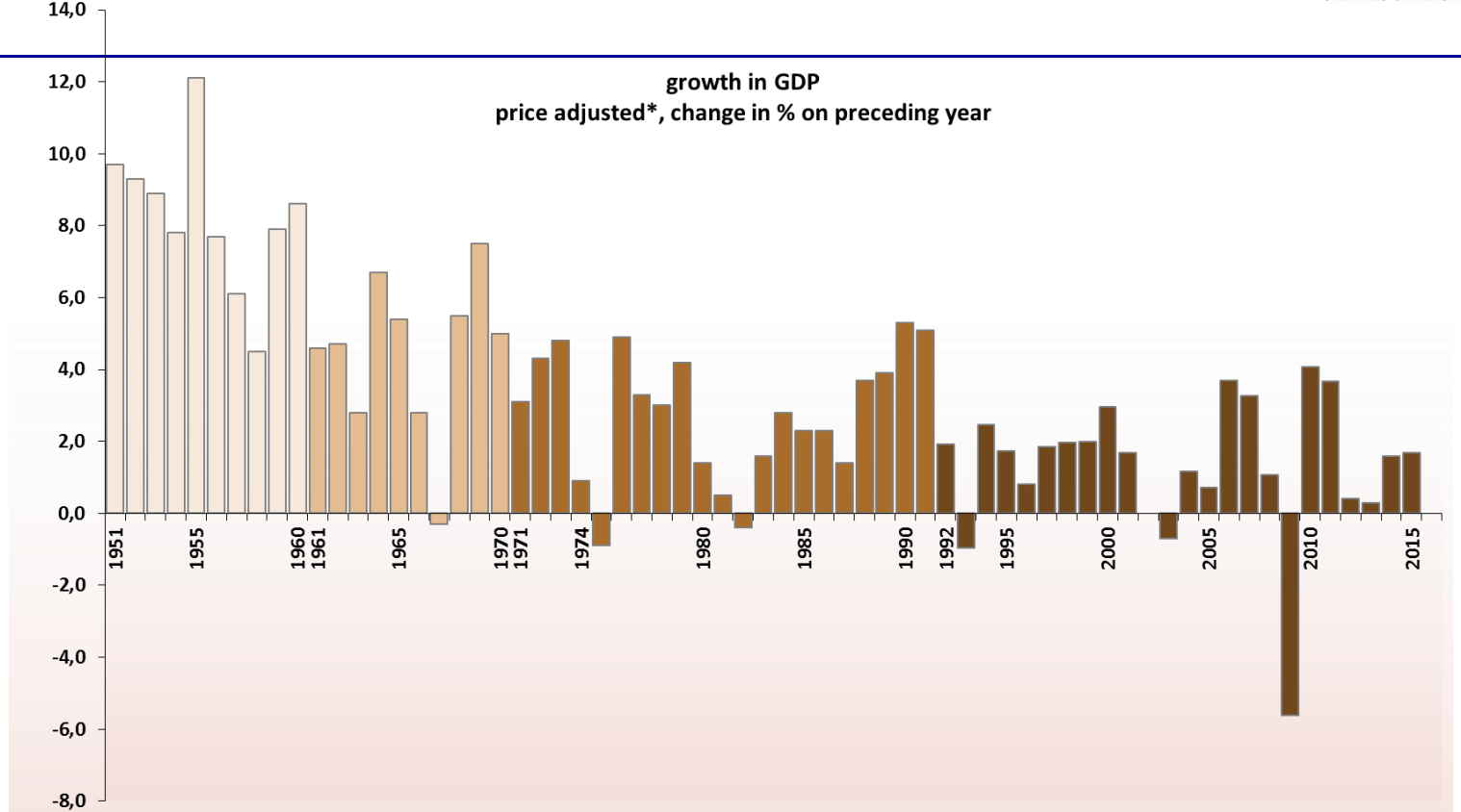
MBA General Management

use of GDP at current prices

year, quarter	GDP	consumption			gross capital formation	balance of trade	exports	imports
		total	private consumption	governmental consumption				
	bn. Euro and change on preceding year (resp. on the same period of the preceding year) in %							
2011 Q1	662,94 *6,9*	479,65 *3,4*	357,09 *4,0*	122,55 *1,7*	146,61 *20,2*	36,68	296,52 *19,7*	259,84 *21,8*
Q2	665,88 *5,0*	496,12 *3,4*	372,92 *3,4*	123,20 *3,3*	138,26 *13,0*	31,50	300,72 *11,1*	269,22 *12,8*
Q3	689,12 *4,3*	503,82 *3,2*	380,33 *3,5*	123,49 *2,2*	158,26 *9,8*	27,05	303,76 *9,3*	276,71 *10,9*
Q4	685,18 *3,0*	521,64 *2,7*	385,19 *2,7*	136,45 *2,8*	126,62 *7,4*	36,92	310,49 *5,7*	273,57 *7,6*
2012 Q1	682,03 *2,9*	496,52 *3,5*	370,37 *3,7*	126,15 *2,9*	142,40 *-2,9*	43,12	315,91 *6,5*	272,80 *5,0*
Q2	676,95 *1,7*	508,85 *2,6*	381,69 *2,4*	127,16 *3,2*	124,62 *-9,9*	43,48	315,34 *4,9*	271,86 *1,0*
Q3	700,60 *1,7*	516,05 *2,4*	388,13 *2,1*	127,92 *3,6*	146,10 *-7,7*	38,45	318,44 *4,8*	279,99 *1,2*
Q4	695,28 *1,5*	535,12 *2,6*	393,64 *2,2*	141,47 *3,7*	117,48 *-7,2*	42,68	317,24 *2,2*	274,56 *0,4*
2013 Q1	684,96 *0,4*	504,08 *1,5*	372,63 *0,6*	131,44 *4,2*	138,14 *-3,0*	42,75	312,76 *-1,0*	270,01 *-1,0*
Q2	697,11 *3,0*	520,45 *2,3*	389,33 *2,0*	131,12 *3,1*	131,50 *5,5*	45,17	320,65 *1,7*	275,48 *1,3*
Q3	721,47 *3,0*	532,56 *3,2*	399,30 *2,9*	133,26 *4,2*	155,04 *6,1*	33,88	321,21 *0,9*	287,34 *2,6*
Q4	717,28 *3,2*	547,56 *2,3*	401,44 *2,0*	146,12 *3,3*	122,10 *3,9*	47,62	328,52 *3,6*	280,90 *2,3*
2014 Q1	715,91 *4,5*	516,81 *2,5*	380,36 *2,1*	136,46 *3,8*	151,49 *9,7*	47,61	324,75 *3,8*	277,14 *2,6*
Q2	716,85 *2,8*	532,75 *2,4*	395,77 *1,7*	136,98 *4,5*	135,87 *3,3*	48,23	327,78 *2,2*	279,56 *1,5*
Q3	742,51 *2,9*	543,94 *2,1*	405,25 *1,5*	138,68 *4,1*	152,45 *-1,7*	46,13	336,67 *4,8*	290,55 *1,1*
Q4	740,38 *3,2*	562,71 *2,8*	410,78 *2,3*	151,93 *4,0*	123,25 *0,9*	54,42	343,98 *4,7*	289,56 *3,1*
2015 Q1	739,44 *3,3*	531,72 *2,9*	390,40 *2,6*	141,31 *3,6*	151,37 *-0,1*	56,35	342,95 *5,6*	286,60 *3,4*
Q2	743,42 *3,7*	548,65 *3,0*	406,30 *2,7*	142,36 *3,9*	131,76 *-3,0*	63,01	355,34 *8,4*	292,33 *4,6*
Q3	770,12 *3,7*	560,51 *3,0*	416,49 *2,8*	144,02 *3,9*	156,22 *2,5*	53,38	358,25 *6,4*	304,87 *4,9*
Q4	772,92 *4,4*	579,20 *2,9*	420,20 *2,3*	159,00 *4,7*	130,37 *5,8*	63,36	363,07 *5,5*	299,71 *3,5*

source: www.destatis.de, Fachserie 18, Reihe 1.2, retrieved 22.03.2016

ECONOMY IN FIGURES



*) Due to different concepts and definitions, figures from 1950 to 1970 (former West Germany) are not fully comparable with figures from 1971 to 1991 (former West Germany) and with figures from 1991 onward (Germany). Price adjustments from 1950 to 1970 are based on prices of 1991. Price adjustments from 1971 to 1991 (former West Germany) as well as price adjustments from 1991 onward (Germany) are calculated as a chain index based on prices of the previous year respectively.

source: www.destatis.de, Fachserie 18, Reihe 1.5, retrieved 23.03.2016

Economy in Figures

- GDP per capita in Europe 2012
  - regional disparities

source: Eurostat, retrieved 22.03.2016, in purchase parity standards by NUTS-3-regions