HSB
Hochschule Bremen
City University of Applied Sciences

SiB SCHOOL OF INTERNATIONAL BUSINESS

Economics & Statistics

☎: (0421) 5905-4691
Fax: (0421) 5905-4862
Peter.Schmidt@hs-bremen.de
www.schmidt-bremen.de

Prof. Dr. Peter Schmidt
WS 2022/23 (winter term)

Economics I

*Introduction to Economics & **Microeconomics***

EFA 3rd semester

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- **Monitoring economic performance, quality of life and sustainability,** Joint Report as requested by the Franco-German Ministerial Council 52
- **Beyond GDP**: Measuring what counts for Economic and Social Performance, (J Stiglitz, J-P Fitoussi, M. Durand, OECD 2018) 57
- The **Economy for the Common Good** (ECG / "GWÖ") 65
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- Joint Economic Forecast Autumn 2022 "**Energy Crisis: Inflation, Recession, Welfare Loss**" + Key Forecast Figures (Gemeinschaftsdiagnose Herbst 2022) 76

IMPORTANT: also check the information on the class webpage = syllabus including the documentation of the Assessment

Some References

Sloman, J **Garrat**, D and **Wride**, A: "Economics"

Mankiw, G: "Principles of Economics"

Further Literature:

Baye, M: "Managerial Economics and Business Strategy"

Begg, D, **Fischer**, S, **Dornbush**, R.: "Economics"

Cleaver, T.: Understanding the World Economy,

Samuelson, P and **Nordhaus**, W: "Economics"

Sloman, J; **Wride**, A, and **Garratt**, D: "Economics"

Hill, C.W.L.: "Global Business Today"

Current issues:

Franco-German Ministerial Council, "Monitoring economic performance, quality of life and sustainability"

Friedman, T.L.: "The World is Flat",

Meadows, D, Randers, J, Meadows, D: "Limits to Growth - The 30-Year Update"

Sachs, J: "Common Wealth - Economics for a Crowded Planet"

Stiglitz, J: „Globalization and its discontents"

Stiglitz, J.E. and **Charlton, A.**: Fair Trade For All

Current articles / case studies:

→ http://pearsonblog.campaignserver.co.uk/

Presentations in the Economics classes of Peter Schmidt

I. General Information 1

II. Marking grid 2

III. Detailed information about marking criteria 3

I. General Information

- For each chapter a team presents a case study linked to the topic of one chapter of the Sloman textbook. This should be an own case study about a contemporary topic (you might check for ideas in the cases delivered in the book at the end of each chapter, but should find your own case. You are encouraged to search for articles in academic (!) journals about you topic.
- Your task is to **focus on a (small) part of the chapter**, something you find interesting / important to share with the class. (Your task is NOT to summarize the whole chapter!)
- Maximum presentation time is 20 minutes *(definite stop after 25 min)*
- Enroll for a presentation as soon as possible - using the AULIS forum
- Check the result of a class discussion "What makes a good presentation"
- Each team has to deliver 3-5 review questions at the end of the presentation
- The goal is that you **deliver and moderate a discussion** about contemporary issues of economic policy in class
- In Macroeconomics / Policy will be a stronger emphasis on the discussion of different (theoretical / political) standpoints. This holds for the content of your presentation as well as the discussion in class // after/during your presentations.
- You have to provide a handout:
  It should be structured in the same way as the presentation: Content, Layout, … should help the audience follow your argumentation and gather the most important message(s)
- Academic sources:
  - You are required to use at least five additional academic sources
  - You have to refer to at least two academic (!) journals (or papers)
  - Spend some time in the library to find other sources, the University Library provides helpful tools (data bases introduced in class, esp. EconLit)
  - Books about general Economics as well as specific books about your topic / field can both be helpful
  - You might want to start with classic textbooks like:
    - Mankiw "Principles of Economics" and "Business Economics"
    - Case Fair Oster "Principles of Economics
    - "Economics for Business"

➢ Recall that the material for the presentation (handout and ppt) has to be delivered on the day before the presentation by 4 p.m!
If a team fails to deliver the material in time this will lead to a reduction of the mark.

II. Marking grid

Chapter: _____ Name/s: _____

1. Content (60%)

	Evaluation	-- to ++
1.1 **Research question**: Defined appropriately & answered		
1.2 **Literature** selection / independent **research 5 ac. srcs, 2 jnl !**		
1.3 **Contents** (apt selection, …)		
1.4 Application(s) of theories		
1.5 Range of perspectives		
1.6 **Conclusion (answering the question)**		

Sub-total: _____%

2. Handout and formal aspects (20%)

	Evaluation	-- to ++
2.1 **Handout**: Structure and Layout; helpful?		
2.2 material delivered on time		
2.3 Time management		
2.4 References & quotations		

Sub-total: _____%

3. Communication and Teamwork (20%)

	Evaluation	-- to ++
3.1 Effective Structure		
3.2 Lively interesting / Initiative and creativity		
3.3 Media: ppt, A.V/I.T, and **other** ……		
3.4 Integration of own material (ppt, handout, other)		
3.5 Speaking style skills		--
3.6 Integrated team-work		
3.7 Discussion: motivation and moderation		

Sub-total: _____%

Total: _____ %

III. Detailed information about marking criteria

1 Content: (60 % of presentation mark)

- Did the group present an apt **RESEARCH QUESTION**
- Has the group answered the question/s?
- Did they cover all the required reading?
- Have they independently found relevant material using their own research skills?
- Did the group focus on an apt selection of topics / CONTENT
- Have they given applied relevant concepts/theories/ideas and knowledge to the question?
- Have they given due weight to the range of perspectives?
- Have they come to a well-argued conclusion?

In this section we are looking for your having applied the relevant content to the question. We are testing your understanding and your ability to construct an argument. This is a vital skill because it means that you have to select from all the information available what you consider to be the most relevant facts/arguments and present these in a concise way. Importantly we are looking for you to show the range of views expressed in attempting to look at the question but for you to attempt to show where you feel such views are strong or weak and for you to come to a view yourselves. We also expect you to involve yourselves in independent research.

2 Handout and formal aspects (20 % of presentation mark)

- Handout: Structure and Layout; helpful?
- material delivered on time
- Time management during presentation
- References and quotations

3 Communication and Teamwork (20 % of presentation mark)

- Is the presentation lively and interesting?
- Is it structured effectively with a clear introduction, a sustained argument which covers all views but seeks to judge between them and a clear conclusion supported by evidence?
- Have the group shown initiative and creativity in the design of the presentation?
- Is there effective and appropriate use of audio-visual aid and/or I.T.?
  Especially use and layout / effectiveness of ppt-slides.
- Does the handout complement the presentation in a way that enables the audience to follow the presentation and then take away an effective summary of it?
- How well do the presenters present themselves? Is there good voice projection, eye contact, confident delivery and interaction between the presenters? What use is made of cue cards/ bullet points as opposed to reading from a script?
- How well prepared are the group to answer or pose questions that are relevant to the subject?
- Is the presentation clearly an integrated group effort as opposed to individual contributions "cobbled" together?

- How well have they co-ordinated their activity and planned their presentation?
- Is there evidence that the group have discussed their work prior to the presentation and are aware of the contribution of each member?

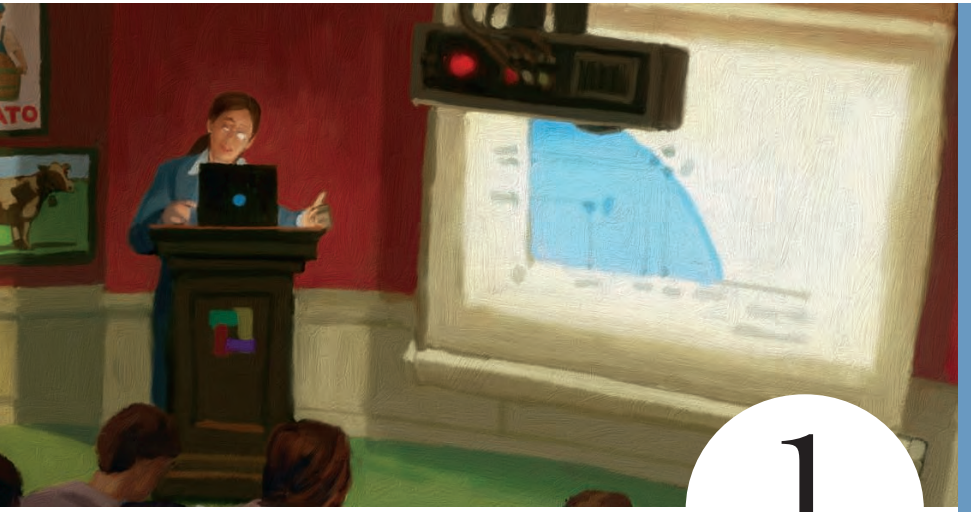
In this section we are looking for a presentation which holds the attention of the audience. You have to be enthusiastic and show the interesting issues involved. You need to consider how you structure your presentation and how as a group you are going to present yourselves. Avoid simply carving up the presentation into individual chunks of time. Try and "switch" between presenters, use OHPs or PowerPoint presentation facilities, add other media (board, posters, audio, video, …).
Your handout should be around two sides and should be constructed so that it helps outline your structure and shows the key points/issues that you wish to show. It should also contain the names of the presenters and the name of the course they are following. You should have sufficient copies for all members of the audience. It should also contain a full listing of all the reading/research sources you have used using the Harvard method of referencing.

This is a team presentation and you have to work as a team. It is easy for tutors to show the extent to which you have operated in the way specified by the assessment criteria given above for group skills. If you have worked as a group there will be a consistent use of the presentation aids, there will be smooth interchanges between presenters. In the questions afterwards all members will be able to field question should they be called upon.

If a group contains a member who is not their pulling their weight it is up to the rest of the group to sort this out. They can approach their lecturer for advice and the lecturer may wish to talk with the particular individual but it is not up to the tutor to sort out the internal dynamic of the group. If groups contain such "free riders" they will need to sort out their strategy for dealing with this..

All members of the group present will be awarded the same mark for the presentation. Students who do not attend because of mitigation will have to allow the examination boards for their routes to decide on the fairest way of making up for the non-attendance.

Notes for Presenters
Please fully brief yourself with the assessment criteria for your group presentation. This is how you will be marked and so you need to prepare yourself accordingly.



1

Ten Principles of Economics

The word *economy* comes from the Greek word *oikonomos*, which means "one who manages a household." At first, this origin might seem peculiar. But in fact, households and economies have much in common.

A household faces many decisions. It must decide which members of the household do which tasks and what each member gets in return: Who cooks dinner? Who does the laundry? Who gets the extra dessert at dinner? Who gets to choose what TV show to watch? In short, the household must allocate its scarce resources among its various members, taking into account each member's abilities, efforts, and desires.

Like a household, a society faces many decisions. A society must decide what jobs will be done and who will do them. It needs some people to grow food, other people to make clothing, and still others to design computer software. Once society has allocated people (as well as land, buildings, and machines) to various jobs, it must also allocate the output of goods and services that they produce. It must decide who will eat caviar and who will eat potatoes. It must decide who will drive a Ferrari and who will take the bus.

The management of society's resources is important because resources are scarce. **Scarcity** means that society has limited resources and therefore cannot produce all the goods and services people wish to have. Just as a household cannot give every member everything he or she wants, a society cannot give every individual the highest standard of living to which he or she might aspire.

scarcity
the limited nature of society's resources

Source: Mankiw, Greg.: "Principles of Economics", Cengage

economics
the study of how society manages its scarce resources

Economics is the study of how society manages its scarce resources. In most societies, resources are allocated not by an all-powerful dictator but through the combined actions of millions of households and firms. Economists therefore study how people make decisions: how much they work, what they buy, how much they save, and how they invest their savings. Economists also study how people interact with one another. For instance, they examine how the multitude of buyers and sellers of a good together determine the price at which the good is sold and the quantity that is sold. Finally, economists analyze forces and trends that affect the economy as a whole, including the growth in average income, the fraction of the population that cannot find work, and the rate at which prices are rising.

Although the study of economics has many facets, the field is unified by several central ideas. In this chapter, we look at *Ten Principles of Economics*. Don't worry if you don't understand them all at first or if you don't find them completely convincing. In later chapters, we will explore these ideas more fully. The ten principles are introduced here to give you an overview of what economics is all about. You can think of this chapter as a "preview of coming attractions."

HOW PEOPLE MAKE DECISIONS

There is no mystery to what an economy is. Whether we are talking about the economy of Los Angeles, of the United States, or of the whole world, an economy is just a group of people interacting with one another as they go about their lives. Because the behavior of an economy reflects the behavior of the individuals who make up the economy, we start our study of economics with four principles of individual decision making.

Principle 1: People Face Trade-offs

The first lesson about making decisions is summarized in the adage "There is no such thing as a free lunch." To get one thing that we like, we usually have to give up another thing that we like. Making decisions requires trading off one goal against another.

Consider a student who must decide how to allocate her most valuable resource—her time. She can spend all of her time studying economics; she can spend all of her time studying psychology; or she can divide her time between the two fields. For every hour she studies one subject, she gives up an hour she could have used studying the other. And for every hour she spends studying, she gives up an hour that she could have spent napping, bike riding, watching TV, or working at her part-time job for some extra spending money.

Or consider parents deciding how to spend their family income. They can buy food, clothing, or a family vacation. Or they can save some of the family income for retirement or the children's college education. When they choose to spend an extra dollar on one of these goods, they have one less dollar to spend on some other good.

When people are grouped into societies, they face different kinds of trade-offs. The classic trade-off is between "guns and butter." The more we spend on national defense (guns) to protect our shores from foreign aggressors, the less we can spend on consumer goods (butter) to raise our standard of living at home. Also important in modern society is the trade-off between a clean envi-

ronment and a high level of income. Laws that require firms to reduce pollution raise the cost of producing goods and services. Because of the higher costs, these firms end up earning smaller profits, paying lower wages, charging higher prices, or some combination of these three. Thus, while pollution regulations give us the benefit of a cleaner environment and the improved health that comes with it, they have the cost of reducing the incomes of the firms' owners, workers, and customers.

Another trade-off society faces is between efficiency and equity. **Efficiency** means that society is getting the maximum benefits from its scarce resources. **Equity** means that those benefits are distributed fairly among society's members. In other words, efficiency refers to the size of the economic pie, and equity refers to how the pie is divided. Often, when government policies are designed, these two goals conflict.

efficiency
the property of society getting the most it can from its scarce resources

equity
the property of distributing economic prosperity fairly among the members of society

Consider, for instance, policies aimed at achieving a more equal distribution of economic well-being. Some of these policies, such as the welfare system or unemployment insurance, try to help the members of society who are most in need. Others, such as the individual income tax, ask the financially successful to contribute more than others to support the government. Although these policies have the benefit of achieving greater equity, they have a cost in terms of reduced efficiency. When the government redistributes income from the rich to the poor, it reduces the reward for working hard; as a result, people work less and produce fewer goods and services. In other words, when the government tries to cut the economic pie into more equal slices, the pie gets smaller.

Recognizing that people face trade-offs does not by itself tell us what decisions they will or should make. A student should not abandon the study of psychology just because doing so would increase the time available for the study of economics. Society should not stop protecting the environment just because environmental regulations reduce our material standard of living. The poor should not be ignored just because helping them distorts work incentives. Nonetheless, acknowledging life's trade-offs is important because people are likely to make good decisions only if they understand the options that they have available.

Principle 2: The Cost of Something Is What You Give Up to Get It

Because people face trade-offs, making decisions requires comparing the costs and benefits of alternative courses of action. In many cases, however, the cost of some action is not as obvious as it might first appear.

Consider, for example, the decision to go to college. The benefit is intellectual enrichment and a lifetime of better job opportunities. But what is the cost? To answer this question, you might be tempted to add up the money you spend on tuition, books, room, and board. Yet this total does not truly represent what you give up to spend a year in college.

The first problem with this answer is that it includes some things that are not really costs of going to college. Even if you quit school, you need a place to sleep and food to eat. Room and board are costs of going to college only to the extent that they are more expensive at college than elsewhere. Indeed, the cost of room and board at your school might be less than the rent and food expenses that you would pay living on your own. In this case, the savings on room and board are a benefit of going to college.

The second problem with this calculation of costs is that it ignores the largest cost of going to college—your time. When you spend a year listening to lectures, reading textbooks, and writing papers, you cannot spend that time working at a job. For most students, the wages given up to attend school are the largest single cost of their education.

opportunity cost
whatever must be given up to obtain some item

The **opportunity cost** of an item is what you give up to get that item. When making any decision, such as whether to attend college, decision makers should be aware of the opportunity costs that accompany each possible action. In fact, they usually are. College athletes who can earn millions if they drop out of school and play professional sports are well aware that their opportunity cost of college is very high. It is not surprising that they often decide that the benefit is not worth the cost.

Principle 3: Rational People Think at the Margin

rational people
people who systematically and purposefully do the best they can to achieve their objectives

Economists normally assume that people are rational. **Rational people** systematically and purposefully do the best they can to achieve their objectives, given the opportunities they have. As you study economics, you will encounter firms that decide how many workers to hire and how much of their product to manufacture and sell to maximize profits. You will encounter consumers who buy a bundle of goods and services to achieve the highest possible level of satisfaction, subject to their incomes and the prices of those goods and services.

Rational people know that decisions in life are rarely black and white but usually involve shades of gray. At dinnertime, the decision you face is not between fasting or eating like a pig but whether to take that extra spoonful of mashed potatoes. When exams roll around, your decision is not between blowing them off or studying 24 hours a day but whether to spend an extra hour reviewing your notes instead of watching TV. Economists use the term **marginal changes** to describe small incremental adjustments to an existing plan of action. Keep in mind that *margin* means "edge," so marginal changes are adjustments around the edges of what you are doing. Rational people often make decisions by comparing *marginal benefits* and *marginal costs*.

marginal changes
small incremental adjustments to a plan of action

For example, consider an airline deciding how much to charge passengers who fly standby. Suppose that flying a 200-seat plane across the United States costs the airline $100,000. In this case, the average cost of each seat is $100,000/200, which is $500. One might be tempted to conclude that the airline should never sell a ticket for less than $500. In fact, however, the airline can raise its profits by thinking at the margin. Imagine that a plane is about to take off with ten empty seats, and a standby passenger waiting at the gate will pay $300 for a seat. Should the airline sell the ticket? Of course it should. If the plane has empty seats, the cost of adding one more passenger is minuscule. Although the *average* cost of flying a passenger is $500, the *marginal* cost is merely the cost of the bag of peanuts and can of soda that the extra passenger will consume. As long as the standby passenger pays more than the marginal cost, selling the ticket is profitable.

Marginal decision making can help explain some otherwise puzzling economic phenomena. Here is a classic question: Why is water so cheap, while diamonds are so expensive? Humans need water to survive, while diamonds are unnecessary; but for some reason, people are willing to pay much more for a diamond than for a cup of water. The reason is that a person's willingness to pay for any good is based on the marginal benefit that an extra unit of the good would yield. The marginal benefit, in turn, depends on how many units a person already has. Although water is essential, the marginal benefit of an extra cup

is small because water is plentiful. By contrast, no one needs diamonds to survive, but because diamonds are so rare, people consider the marginal benefit of an extra diamond to be large.

A rational decision maker takes an action if and only if the marginal benefit of the action exceeds the marginal cost. This principle can explain why airlines are willing to sell a ticket below average cost and why people are willing to pay more for diamonds than for water. It can take some time to get used to the logic of marginal thinking, but the study of economics will give you ample opportunity to practice.

Principle 4: People Respond to Incentives

An **incentive** is something (such as the prospect of a punishment or a reward) that induces a person to act. Because rational people make decisions by comparing costs and benefits, they respond to incentives. You will see that incentives play a central role in the study of economics. One economist went so far as to suggest that the entire field could be simply summarized: "People respond to incentives. The rest is commentary."

incentive
something that induces a person to act

Incentives are crucial to analyzing how markets work. For example, when the price of an apple rises, people decide to eat more pears and fewer apples because the cost of buying an apple is higher. At the same time, apple orchards decide to hire more workers and harvest more apples because the benefit of selling an apple is also higher. As we will see, the effect of a good's price on the behavior of buyers and sellers in a market—in this case, the market for apples—is crucial for understanding how the economy allocates scarce resources.

Public policymakers should never forget about incentives because many policies change the costs or benefits that people face and, therefore, alter their behavior. A tax on gasoline, for instance, encourages people to drive smaller, more fuel-efficient cars. That is one reason people drive smaller cars in Europe, where gasoline taxes are high, than in the United States, where gasoline taxes are low. A gasoline tax also encourages people to take public transportation rather than drive and to live closer to where they work. If the tax were larger, more people would be driving hybrid cars, and if it were large enough, they would switch to electric cars.

When policymakers fail to consider how their policies affect incentives, they often end up with results they did not intend. For example, consider public policy regarding auto safety. Today, all cars have seat belts, but this was not true 50 years ago. In the 1960s, Ralph Nader's book *Unsafe at Any Speed* generated much public concern over auto safety. Congress responded with laws requiring seat belts as standard equipment on new cars.

How does a seat belt law affect auto safety? The direct effect is obvious: When a person wears a seat belt, the probability of surviving a major auto accident rises. But that's not the end of the story because the law also affects behavior by altering incentives. The relevant behavior here is the speed and care with which drivers operate their cars. Driving slowly and carefully is costly because it uses the driver's time and energy. When deciding how safely to drive, rational people compare the marginal benefit from safer driving to the marginal cost. They drive more slowly and carefully when the benefit of increased safety is high. It is no surprise, for instance, that people drive more slowly and carefully when roads are icy than when roads are clear.

Consider how a seat belt law alters a driver's cost–benefit calculation. Seat belts make accidents less costly because they reduce the likelihood of injury or

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BASKETBALL STAR LEBRON JAMES UNDERSTANDS OPPORTUNITY COST AND INCENTIVES. HE DECIDED TO SKIP COLLEGE AND GO STRAIGHT TO THE PROS, WHERE HE HAS EARNED MILLIONS OF DOLLARS AS ONE OF THE NBA'S TOP PLAYERS.

death. In other words, seat belts reduce the benefits of slow and careful driving. People respond to seat belts as they would to an improvement in road conditions—by driving faster and less carefully. The end result of a seat belt law, therefore, is a larger number of accidents. The decline in safe driving has a clear, adverse impact on pedestrians, who are more likely to find themselves in an accident but (unlike the drivers) don't have the benefit of added protection.

At first, this discussion of incentives and seat belts might seem like idle speculation. Yet in a classic 1975 study, economist Sam Peltzman showed that auto-safety laws have had many of these effects. According to Peltzman's evidence, these laws produce both fewer deaths per accident and more accidents. He concluded that the net result is little change in the number of driver deaths and an increase in the number of pedestrian deaths.

Peltzman's analysis of auto safety is an offbeat example of the general principle that people respond to incentives. When analyzing any policy, we must consider not only the direct effects but also the indirect and sometimes less obvious effects that work through incentives. If the policy changes incentives, it will cause people to alter their behavior.

Quick Quiz List and briefly explain the four principles of individual decision making.

HOW PEOPLE INTERACT

The first four principles discussed how individuals make decisions. As we go about our lives, many of our decisions affect not only ourselves but other people as well. The next three principles concern how people interact with one another.

Principle 5: Trade Can Make Everyone Better Off

You have probably heard on the news that the Japanese are our competitors in the world economy. In some ways, this is true because American and Japanese firms produce many of the same goods. Ford and Toyota compete for the same customers in the market for automobiles. Apple and Sony compete for the same customers in the market for digital music players.

"FOR $5 A WEEK YOU CAN WATCH BASEBALL WITHOUT BEING NAGGED TO CUT THE GRASS!"

Yet it is easy to be misled when thinking about competition among countries. Trade between the United States and Japan is not like a sports contest in which one side wins and the other side loses. In fact, the opposite is true: Trade between two countries can make each country better off.

To see why, consider how trade affects your family. When a member of your family looks for a job, he or she competes against members of other families who are looking for jobs. Families also compete against one another when they go shopping because each family wants to buy the best goods at the lowest prices. So in a sense, each family in the economy is competing with all other families.

Despite this competition, your family would not be better off isolating itself from all other families. If it did, your family would need to grow its own food, make its own clothes, and build its own home. Clearly, your family gains much from its ability to trade with others. Trade allows each person to specialize in the

CARTOON: FROM THE WALL STREET JOURNAL—PERMISSION CARTOON FEATURES SYNDICATE

activities he or she does best, whether it is farming, sewing, or home building. By trading with others, people can buy a greater variety of goods and services at lower cost.

Countries as well as families benefit from the ability to trade with one another. Trade allows countries to specialize in what they do best and to enjoy a greater variety of goods and services. The Japanese, as well as the French and the Egyptians and the Brazilians, are as much our partners in the world economy as they are our competitors.

Principle 6: Markets Are Usually a Good Way to Organize Economic Activity

The collapse of communism in the Soviet Union and Eastern Europe in the 1980s may be the most important change in the world during the past half century. Communist countries worked on the premise that government officials were in the best position to determine the allocation of scarce resources in the economy. These central planners decided what goods and services were produced, how much was produced, and who produced and consumed these goods and services. The theory behind central planning was that only the government could organize economic activity in a way that promoted economic well-being for the country as a whole.

Today, most countries that once had centrally planned economies have abandoned this system and are trying to develop market economies. In a **market economy,** the decisions of a central planner are replaced by the decisions of millions of firms and households. Firms decide whom to hire and what to make. Households decide which firms to work for and what to buy with their incomes. These firms and households interact in the marketplace, where prices and self-interest guide their decisions.

market economy
an economy that allocates resources through the decentralized decisions of many firms and households as they interact in markets for goods and services

At first glance, the success of market economies is puzzling. After all, in a market economy, no one is looking out for the economic well-being of society as a whole. Free markets contain many buyers and sellers of numerous goods and services, and all of them are interested primarily in their own well-being. Yet despite decentralized decision making and self-interested decision makers, market economies have proven remarkably successful in organizing economic activity in a way that promotes overall economic well-being.

In his 1776 book *An Inquiry into the Nature and Causes of the Wealth of Nations*, economist Adam Smith made the most famous observation in all of economics: Households and firms interacting in markets act as if they are guided by an "invisible hand" that leads them to desirable market outcomes. One of our goals in this book is to understand how this invisible hand works its magic.

As you study economics, you will learn that prices are the instrument with which the invisible hand directs economic activity. In any market, buyers look at the price when determining how much to demand, and sellers look at the price when deciding how much to supply. As a result of the decisions that buyers and sellers make, market prices reflect both the value of a good to society and the cost to society of making the good. Smith's great insight was that prices adjust to guide these individual buyers and sellers to reach outcomes that, in many cases, maximize the welfare of society as a whole.

There is an important corollary to the skill of the invisible hand in guiding economic activity: When the government prevents prices from adjusting naturally to supply and demand, it impedes the invisible hand's ability to coordinate the millions of households and firms that make up the economy. This corollary explains

why taxes adversely affect the allocation of resources: Taxes distort prices and thus the decisions of households and firms. It also explains the even greater harm caused by policies that directly control prices, such as rent control. And it explains the failure of communism. In communist countries, prices were not determined in the marketplace but were dictated by central planners. These planners lacked the information that gets reflected in prices that are free to respond to market forces. Central planners failed because they tried to run the economy with one hand tied behind their backs—the invisible hand of the marketplace.

Principle 7: Governments Can Sometimes Improve Market Outcomes

If the invisible hand of the market is so great, why do we need government? One purpose of studying economics is to refine your view about the proper role and scope of government policy.

One reason we need government is that the invisible hand can work its magic only if the government enforces the rules and maintains the institutions that are

FYI

Adam Smith and the Invisible Hand

It may be only a coincidence that Adam Smith's great book *The Wealth of Nations* was published in 1776, the exact year American revolutionaries signed the Declaration of Independence. But the two documents share a point of view that was prevalent at the time: Individuals are usually best left to their own devices, without the heavy hand of government guiding their actions. This political philosophy provides the intellectual basis for the market economy and for free society more generally.

Adam Smith

Why do decentralized market economies work so well? Is it because people can be counted on to treat one another with love and kindness? Not at all. Here is Adam Smith's description of how people interact in a market economy:

> *Man has almost constant occasion for the help of his brethren, and it is vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favor, and show them that it is for their own advantage to do for him what he requires of them. . . . It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest. . . .*
>
> *Every individual . . . neither intends to promote the public interest, nor knows how much he is promoting it. . . . He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.*

Smith is saying that participants in the economy are motivated by self-interest and that the "invisible hand" of the marketplace guides this self-interest into promoting general economic well-being.

Many of Smith's insights remain at the center of modern economics. Our analysis in the coming chapters will allow us to express Smith's conclusions more precisely and to analyze fully the strengths and weaknesses of the market's invisible hand.

PHOTO: © BETTMANN/CORBIS

key to a market economy. Most important, markets work only if **property rights** are enforced. A farmer won't grow food if he expects his crop to be stolen; a restaurant won't serve meals unless it is assured that customers will pay before they leave; and a music company won't produce CDs if too many potential customers avoid paying by making illegal copies. We all rely on government-provided police and courts to enforce our rights over the things we produce—and the invisible hand counts on our ability to enforce our rights.

property rights
the ability of an individual to own and exercise control over scarce resources

Yet there is another, more profound reason we need government: The invisible hand is powerful, but it is not omnipotent. Although markets are often a good way to organize economic activity, this rule has some important exceptions. There are two broad reasons for a government to intervene in the economy and change the allocation of resources that people would choose on their own: to promote efficiency and to promote equity. That is, most policies aim either to enlarge the economic pie or to change how the pie is divided.

Consider first the goal of efficiency. Although the invisible hand usually leads markets to allocate resources efficiently, this is not always the case. Economists use the term **market failure** to refer to a situation in which the market on its own fails to produce an efficient allocation of resources. One possible cause of market failure is an **externality,** which is the impact of one person's actions on the well-being of a bystander. The classic example of an externality is pollution. Another possible cause of market failure is **market power,** which refers to the ability of a single person (or small group) to unduly influence market prices. For example, if everyone in town needs water but there is only one well, the owner of the well is not subject to the rigorous competition with which the invisible hand normally keeps self-interest in check. In the presence of externalities or market power, well-designed public policy can enhance economic efficiency.

market failure
a situation in which a market left on its own fails to allocate resources efficiently

externality
the impact of one person's actions on the well-being of a bystander

market power
the ability of a single economic actor (or small group of actors) to have a substantial influence on market prices

The invisible hand may also fail to ensure that economic prosperity is distributed equitably. A market economy rewards people according to their ability to produce things that other people are willing to pay for. The world's best basketball player earns more than the world's best chess player simply because people are willing to pay more to watch basketball than chess. The invisible hand does not ensure that everyone has sufficient food, decent clothing, and adequate healthcare. Many public policies, such as the income tax and the welfare system, aim to achieve a more equitable distribution of economic well-being.

To say that the government *can* improve on market outcomes at times does not mean that it always *will*. Public policy is made not by angels but by a political process that is far from perfect. Sometimes policies are designed simply to reward the politically powerful. Sometimes they are made by well-intentioned leaders who are not fully informed. As you study economics, you will become a better judge of when a government policy is justifiable because it promotes efficiency or equity and when it is not.

Quick Quiz List and briefly explain the three principles concerning people's economic interactions.

HOW THE ECONOMY AS A WHOLE WORKS

We started by discussing how individuals make decisions and then looked at how people interact with one another. All these decisions and interactions together make up "the economy." The last three principles concern the workings of the economy as a whole.

Principle 8: A Country's Standard of Living Depends on Its Ability to Produce Goods and Services

The differences in living standards around the world are staggering. In 2003, the average American had an income of about $37,500. In the same year, the average Mexican earned $8,950, and the average Nigerian earned $900. Not surprisingly, this large variation in average income is reflected in various measures of the quality of life. Citizens of high-income countries have more TV sets, more cars, better nutrition, better healthcare, and a longer life expectancy than citizens of low-income countries.

Changes in living standards over time are also large. In the United States, incomes have historically grown about 2 percent per year (after adjusting for changes in the cost of living). At this rate, average income doubles every 35 years. Over the past century, average income has risen about eightfold.

What explains these large differences in living standards among countries and over time? The answer is surprisingly simple. Almost all variation in living standards is attributable to differences in countries' **productivity**—that is, the amount of goods and services produced from each hour of a worker's time. In nations where workers can produce a large quantity of goods and services per unit of time, most people enjoy a high standard of living; in nations where workers are less productive, most people endure a more meager existence. Similarly, the growth rate of a nation's productivity determines the growth rate of its average income.

productivity
the quantity of goods and services produced from each hour of a worker's time

The fundamental relationship between productivity and living standards is simple, but its implications are far-reaching. If productivity is the primary determinant of living standards, other explanations must be of secondary importance. For example, it might be tempting to credit labor unions or minimum-wage laws for the rise in living standards of American workers over the past century. Yet the real hero of American workers is their rising productivity. As another example, some commentators have claimed that increased competition from Japan and other countries explained the slow growth in U.S. incomes during the 1970s and 1980s. Yet the real villain was not competition from abroad but flagging productivity growth in the United States.

The relationship between productivity and living standards also has profound implications for public policy. When thinking about how any policy will affect living standards, the key question is how it will affect our ability to produce goods and services. To boost living standards, policymakers need to raise productivity by ensuring that workers are well educated, have the tools needed to produce goods and services, and have access to the best available technology.

Principle 9: Prices Rise When the Government Prints Too Much Money

In Germany in January 1921, a daily newspaper cost 0.30 marks. Less than 2 years later, in November 1922, the same newspaper cost 70,000,000 marks. All other prices in the economy rose by similar amounts. This episode is one of history's most spectacular examples of **inflation,** an increase in the overall level of prices in the economy.

inflation
an increase in the overall level of prices in the economy

Although the United States has never experienced inflation even close to that in Germany in the 1920s, inflation has at times been an economic problem. During the 1970s, for instance, the overall level of prices more than doubled, and President Gerald Ford called inflation "public enemy number one." By contrast, inflation in the 1990s was about 3 percent per year; at this rate, it would take more than 20 years for prices to double. Because high inflation imposes various costs on society, keeping inflation at a low level is a goal of economic policymakers around the world.

What causes inflation? In almost all cases of large or persistent inflation, the culprit is growth in the quantity of money. When a government creates large quantities of the nation's money, the value of the money falls. In Germany in the early 1920s, when prices were on average tripling every month, the quantity of money was also tripling every month. Although less dramatic, the economic history of the United States points to a similar conclusion: The high inflation of the 1970s was associated with rapid growth in the quantity of money, and the low inflation of the 1990s was associated with slow growth in the quantity of money.

"Well it may have been 68 cents when you got in line, but it's 74 cents now!"

Principle 10: Society Faces a Short-Run Trade-off between Inflation and Unemployment

Although a higher level of prices is, in the long run, the primary effect of increasing the quantity of money, the short-run story is more complex and more controversial. Most economists describe the short-run effects of monetary injections as follows:

- Increasing the amount of money in the economy stimulates the overall level of spending and thus the demand for goods and services.
- Higher demand may over time cause firms to raise their prices, but in the meantime, it also encourages them to increase the quantity of goods and services they produce and to hire more workers to produce those goods and services.
- More hiring means lower unemployment.

This line of reasoning leads to one final economywide trade-off: a short-run trade-off between inflation and unemployment.

Although some economists still question these ideas, most accept that society faces a short-run trade-off between inflation and unemployment. This simply means that, over a period of a year or two, many economic policies push inflation and unemployment in opposite directions. Policymakers face this trade-off regardless of whether inflation and unemployment both start out at high levels (as they were in the early 1980s), at low levels (as they were in the late 1990s), or someplace in between. This short-run trade-off plays a key role in the analysis of the **business cycle**—the irregular and largely unpredictable fluctuations in economic activity, as measured by the production of goods and services or the number of people employed.

business cycle
fluctuations in economic activity, such as employment and production

Policymakers can exploit the short-run trade-off between inflation and unemployment using various policy instruments. By changing the amount that the government spends, the amount it taxes, and the amount of money it prints, policymakers can influence the combination of inflation and unemployment that the economy experiences. Because these instruments of economic policy are potentially so powerful, how policymakers should use these instruments to control the economy, if at all, is a subject of continuing debate.

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FYI

How to Read This Book

Economics is fun, but it can also be hard to learn. My aim in writing this text is to make it as fun and easy as possible. But you, the student, also have a role to play. Experience shows that if you are actively involved as you study this book, you will enjoy a better outcome both on your exams and in the years that follow. Here are a few tips about how best to read this book.

1. *Summarize, don't highlight.* Running a yellow marker over the text is too passive an activity to keep your mind engaged. Instead, when you come to the end of a section, take a minute and summarize what you just learned in your own words, writing your summary in the wide margins we've provided. When you've finished the chapter, compare your summaries with the one at the end of the chapter. Did you pick up the main points?
2. *Test yourself.* Throughout the book, Quick Quizzes offer instant feedback to find out if you've learned what you are supposed to. Take the opportunity to write down your answer and then check it against the answers provided in the back of the book. The quizzes are meant to test your basic comprehension. If your answer is incorrect, you probably need to review the section.
3. *Practice, practice, practice.* At the end of each chapter, Questions for Review test your understanding, and Problems and Applications ask you to apply and extend the material. Perhaps your instructor will assign some of these exercises as homework. If so, do them. If not, do them anyway. The more you use your new knowledge, the more solid it becomes.
4. *Go online.* The publisher of this book maintains an extensive website to help you in your study of economics. It includes additional examples, applications, and problems, as well as quizzes so you can test yourself. Check it out. The website is http://mankiw.swlearning.com.
5. *Study in groups.* After you've read the book and worked problems on your own, get together with classmates to discuss the material. You will learn from each other—an example of the gains from trade.
6. *Don't forget the real world.* In the midst of all the numbers, graphs, and strange new words, it is easy to lose sight of what economics is all about. The Case Studies and In the News boxes sprinkled throughout this book should help remind you. Don't skip them. They show how the theory is tied to events happening in all of our lives. If your study is successful, you won't be able to read a newspaper again without thinking about supply, demand, and the wonderful world of economics.

Quick Quiz List and briefly explain the three principles that describe how the economy as a whole works.

CONCLUSION

You now have a taste of what economics is all about. In the coming chapters, we will develop many specific insights about people, markets, and economies. Mastering these insights will take some effort, but it is not an overwhelming task. The field of economics is based on a few basic ideas that can be applied in many different situations.

Throughout this book, we will refer back to the *Ten Principles of Economics* highlighted in this chapter and summarized in Table 1. Whenever we do so, an icon will be displayed in the margin, as it is now. But even when that icon is absent, you should keep these building blocks in mind. Even the most sophisticated economic analysis is built using the ten principles introduced here.

TABLE 1

Ten Principles of Economics

How People Make Decisions
1: People Face Trade-offs
2: The Cost of Something Is What You Give Up to Get It
3: Rational People Think at the Margin
4: People Respond to Incentives

How People Interact
5: Trade Can Make Everyone Better Off
6: Markets Are Usually a Good Way to Organize Economic Activity
7: Governments Can Sometimes Improve Market Outcomes

How the Economy as a Whole Works
8: A Country's Standard of Living Depends on Its Ability to Produce Goods and Services
9: Prices Rise When the Government Prints Too Much Money
10: Society Faces a Short-Run Trade-off between Inflation and Unemployment

SUMMARY

- The fundamental lessons about individual decision making are that people face trade-offs among alternative goals, that the cost of any action is measured in terms of forgone opportunities, that rational people make decisions by comparing marginal costs and marginal benefits, and that people change their behavior in response to the incentives they face.
- The fundamental lessons about interactions among people are that trade can be mutually beneficial, that markets are usually a good way of coordinating trade among people, and that the government can potentially improve market outcomes if there is some market failure or if the market outcome is inequitable.
- The fundamental lessons about the economy as a whole are that productivity is the ultimate source of living standards, that money growth is the ultimate source of inflation, and that society faces a short-run trade-off between inflation and unemployment.

KEY CONCEPTS

scarcity, p. 3
economics, p. 4
efficiency, p. 5
equity, p. 5
opportunity cost, p. 6
rational people, p. 6
marginal changes, p. 6
incentive, p. 7
market economy, p. 9
property rights, p. 11
market failure, p. 11
externality, p. 11
market power, p. 11
productivity, p. 12
inflation, p. 12
business cycle, p. 13

QUESTIONS FOR REVIEW

1. Give three examples of important trade-offs that you face in your life.
2. What is the opportunity cost of seeing a movie?
3. Water is necessary for life. Is the marginal benefit of a glass of water large or small?
4. Why should policymakers think about incentives?
5. Why isn't trade among countries like a game with some winners and some losers?
6. What does the "invisible hand" of the marketplace do?
7. Explain the two main causes of market failure and give an example of each.
8. Why is productivity important?
9. What is inflation and what causes it?
10. How are inflation and unemployment related in the short run?

PROBLEMS AND APPLICATIONS

1. Describe some of the trade-offs faced by each of the following:
   a. a family deciding whether to buy a new car
   b. a member of Congress deciding how much to spend on national parks
   c. a company president deciding whether to open a new factory
   d. a professor deciding how much to prepare for class
2. You are trying to decide whether to take a vacation. Most of the costs of the vacation (airfare, hotel, and forgone wages) are measured in dollars, but the benefits of the vacation are psychological. How can you compare the benefits to the costs?
3. You were planning to spend Saturday working at your part-time job, but a friend asks you to go skiing. What is the true cost of going skiing? Now suppose you had been planning to spend the day studying at the library. What is the cost of going skiing in this case? Explain.
4. You win $1000 in a basketball pool. You have a choice between spending the money now or putting it away for a year in a bank account that pays 5 percent interest. What is the opportunity cost of spending the $1000 now?
5. The company that you manage has invested $5 million in developing a new product, but the development is not quite finished. At a recent meeting, your salespeople report that the introduction of competing products has reduced the expected sales of your new product to $3 million. If it would cost $1 million to finish development and make the product, should you go ahead and do so? What is the most that you should pay to complete development?
6. Three managers of the Magic Potion Company are discussing a possible increase in production. Each suggests a way to make this decision.

   HARRY: We should examine whether our company's productivity—gallons of potion per worker—would rise or fall.

   RON: We should examine whether our average cost—cost per worker—would rise or fall.

   HERMIONE: We should examine whether the extra revenue from selling the additional potion would be greater or smaller than the extra costs.

   Who do you think is right? Why?
7. The Social Security system provides income for people over age 65. If a recipient of Social Security decides to work and earn some income, the amount he or she receives in Social Security benefits is typically reduced.
   a. How does the provision of Social Security affect people's incentive to save while working?
   b. How does the reduction in benefits associated with higher earnings affect people's incentive to work past age 65?

8. A recent bill reforming the government's anti-poverty programs limited many welfare recipients to only 2 years of benefits.
   a. How does this change affect the incentives for working?
   b. How might this change represent a trade-off between equity and efficiency?
9. Your roommate is a better cook than you are, but you can clean more quickly than your roommate can. If your roommate did all of the cooking and you did all of the cleaning, would your chores take you more or less time than if you divided each task evenly? Give a similar example of how specialization and trade can make two countries both better off.
10. Suppose the United States adopted central planning for its economy, and you became the chief planner. Among the millions of decisions that you need to make for next year are how many compact discs to produce, what artists to record, and who should receive the discs.
    a. To make these decisions intelligently, what information would you need about the compact disc industry? What information would you need about each of the people in the United States?
    b. How would your decisions about CDs affect some of your other decisions, such as how many CD players to make or mp3 players to produce? How might some of your other decisions about the economy change your views about CDs?
11. Nations with corrupt police and court systems typically have lower standards of living than nations with less corruption. Why might that be the case?
12. Explain whether each of the following government activities is motivated by a concern about equity or a concern about efficiency. In the case of efficiency, discuss the type of market failure involved.
    a. regulating cable TV prices
    b. providing some poor people with vouchers that can be used to buy food
    c. prohibiting smoking in public places
    d. breaking up Standard Oil (which once owned 90 percent of all oil refineries) into several smaller companies
    e. imposing higher personal income tax rates on people with higher incomes
    f. instituting laws against driving while intoxicated
13. Discuss each of the following statements from the standpoints of equity and efficiency.
    a. "Everyone in society should be guaranteed the best healthcare possible."
    b. "When workers are laid off, they should be able to collect unemployment benefits until they find a new job."
14. In what ways is your standard of living different from that of your parents or grandparents when they were your age? Why have these changes occurred?
15. Suppose Americans decide to save more of their incomes. If banks lend this extra saving to businesses, which use the funds to build new factories, how might this lead to faster growth in productivity? Who do you suppose benefits from the higher productivity? Is society getting a free lunch?
16. Imagine that you are a policymaker trying to decide whether to reduce the rate of inflation. To make an intelligent decision, what would you need to know about inflation, unemployment, and the trade-off between them?
17. Look at a newspaper or at the website http://www.economist.com to find three stories about the economy that have been in the news lately. For each story, identify one (or more) of the *Ten Principles of Economics* discussed in this chapter that is relevant and explain how it is relevant. Also, for each story, look through this book's Contents and try to find a chapter that might shed light on the news event.

For further information on topics in this chapter, additional problems, applications, examples, online quizzes, and more, please visit our website at http://mankiw.swlearning.com.

undermines private enterprise and inhibits economic growth. The bankruptcy of communism and socialism as alternative means of economic organization has only reinforced this assumption. In our standard economics textbooks and in our modern political debates, laissez-faire is the default rule; anyone who would challenge it swims against the prevailing tide.

It's useful to remind ourselves, then, that our free-market system is the result neither of natural law nor of divine providence. Rather, it emerged through a painful process of trial and error, a series of difficult choices between efficiency and fairness, stability and change. And although the benefits of our free-market system have mostly derived from the individual efforts of generations of men and women pursuing their own vision of happiness, in each and every period of great economic upheaval and transition we've depended on government action to open up opportunity, encourage competition, and make the market work better.

In broad outline, government action has taken three forms. First, government has been called upon throughout our history to build the infrastructure, train the workforce, and otherwise lay the foundations necessary for economic growth. All the Founding Fathers recognized the connection between private property and liberty, but it was Alexander Hamilton who also recognized the vast potential of a national economy—one based not on America's agrarian past but on a commercial and industrial future. To realize this potential, Hamilton argued, America needed a strong and active national government, and as America's first Treasury secretary he set about putting his ideas to work. He nationalized the Revolutionary

War debt, which not only stitched together the economies of the individual states but helped spur a national system of credit and fluid capital markets. He promoted policies—from strong patent laws to high tariffs—to encourage American manufacturing, and proposed investment in roads and bridges needed to move products to market.

Hamilton encountered fierce resistance from Thomas Jefferson, who feared that a strong national government tied to wealthy commercial interests would undermine his vision of an egalitarian democracy tied to the land. But Hamilton understood that only through the liberation of capital from local landed interests could America tap into its most powerful resource—namely the energy and enterprise of the American people. This idea of social mobility constituted one of the great early bargains of American capitalism; industrial and commercial capitalism might lead to greater instability, but it would be a dynamic system in which anyone with enough energy and talent could rise to the top. And on this point, at least, Jefferson agreed—it was based on his belief in a meritocracy, rather than a hereditary aristocracy, that Jefferson would champion the creation of a national, government-financed university that could educate and train talent across the new nation, and that he considered the founding of the University of Virginia to be one of his greatest achievements.

This tradition, of government investment in America's physical infrastructure and in its people, was thoroughly embraced by Abraham Lincoln and the early Republican Party. For Lincoln, the essence of America was opportunity, the ability of "free labor" to advance in life. Lincoln considered capitalism the best means of creating such opportunity, but he also saw how the transition from an

agricultural to an industrial society was disrupting lives and destroying communities.

So in the midst of civil war, Lincoln embarked on a series of policies that not only laid the groundwork for a fully integrated national economy but extended the ladders of opportunity downward to reach more and more people. He pushed for the construction of the first transcontinental railroad. He incorporated the National Academy of Sciences, to spur basic research and scientific discovery that could lead to new technology and commercial applications. He passed the landmark Homestead Act of 1862, which turned over vast amounts of public land across the western United States to settlers from the East and immigrants from around the world, so that they, too, could claim a stake in the nation's growing economy. And then, rather than leave these homesteaders to fend for themselves, he created a system of land grant colleges to instruct farmers on the latest agricultural techniques, and to provide them the liberal education that would allow them to dream beyond the confines of life on the farm.

Hamilton's and Lincoln's basic insight—that the resources and power of the national government can facilitate, rather than supplant, a vibrant free market—has continued to be one of the cornerstones of both Republican and Democratic policies at every stage of America's development. The Hoover Dam, the Tennessee Valley Authority, the interstate highway system, the Internet, the Human Genome Project—time and again, government investment has helped pave the way for an explosion of private economic activity. And through the creation of a system of public schools and institutions of higher education, as well as programs like the GI Bill that made a

college education available to millions, government has helped provide individuals the tools to adapt and innovate in a climate of constant technological change.

Aside from making needed investments that private enterprise can't or won't make on its own, an active national government has also been indispensable in dealing with market failures—those recurring snags in any capitalist system that either inhibit the efficient workings of the market or result in harm to the public. Teddy Roosevelt recognized that monopoly power could restrict competition, and made "trust busting" a centerpiece of his administration. Woodrow Wilson instituted the Federal Reserve Bank, to manage the money supply and curb periodic panics in the financial markets. Federal and state governments established the first consumer laws—the Pure Food and Drug Act, the Meat Inspection Act—to protect Americans from harmful products.

But it was during the stock market crash of 1929 and the subsequent Depression that the government's vital role in regulating the marketplace became fully apparent. With investor confidence shattered, bank runs threatening the collapse of the financial system, and a downward spiral in consumer demand and business investment, FDR engineered a series of government interventions that arrested further economic contraction. For the next eight years, the New Deal administration experimented with policies to restart the economy, and although not all of these interventions produced their intended results, they did leave behind a regulatory structure that helps limit the risk of economic crisis: a Securities and Exchange Commission to ensure transparency in the financial markets and protect smaller investors from fraud and insider

manipulation; FDIC insurance to provide confidence to bank depositors; and countercyclical fiscal and monetary policies, whether in the form of tax cuts, increased liquidity, or direct government spending, to stimulate demand when business and consumers have pulled back from the market.

Finally—and most controversially—government has helped structure the social compact between business and the American worker. During America's first 150 years, as capital became more concentrated in trusts and limited liability corporations, workers were prevented by law and by violence from forming unions that would increase their own leverage. Workers had almost no protections from unsafe or inhumane working conditions, whether in sweatshops or meatpacking plants. Nor did American culture have much sympathy for workers left impoverished by capitalism's periodic gales of "creative destruction"—the recipe for individual success was greater toil, not pampering from the state. What safety net did exist came from the uneven and meager resources of private charity.

Again, it took the shock of the Great Depression, with a third of all people finding themselves out of work, ill housed, ill clothed, and ill fed, for government to correct this imbalance. Two years into office, FDR was able to push through Congress the Social Security Act of 1935, the centerpiece of the new welfare state, a safety net that would lift almost half of all senior citizens out of poverty, provide unemployment insurance for those who had lost their jobs, and provide modest welfare payments to the disabled and the elderly poor. FDR also initiated laws that fundamentally changed the relationship between capital and labor: the forty-hour workweek, child labor laws, and minimum wage

laws; and the National Labor Relations Act, which made it possible to organize broad-based industrial unions and forced employers to bargain in good faith.

Part of FDR's rationale in passing these laws came straight out of Keynesian economics: One cure for economic depression was putting more disposable income in the pockets of American workers. But FDR also understood that capitalism in a democracy required the consent of the people, and that by giving workers a larger share of the economic pie, his reforms would undercut the potential appeal of government-managed, command-and-control systems—whether fascist, socialist, or communist—that were gaining support all across Europe. As he would explain in 1944, "People who are hungry, people who are out of a job are the stuff of which dictatorships are made."

For a while this seemed to be where the story would end—with FDR saving capitalism from itself through an activist federal government that invests in its people and infrastructure, regulates the marketplace, and protects labor from chronic deprivation. And in fact, for the next twenty-five years, through Republican and Democratic administrations, this model of the American welfare state enjoyed a broad consensus. There were those on the right who complained of creeping socialism, and those on the left who believed FDR had not gone far enough. But the enormous growth of America's mass production economy, and the enormous gap in productive capacity between the United States and the war-torn economies of Europe and Asia, muted most ideological battles. Without any serious rivals, U.S. companies could routinely pass on higher labor and regulatory costs to their customers. Full employment allowed unionized factory workers to move

into the middle class, support a family on a single income, and enjoy the stability of health and retirement security. And in such an environment of steady corporate profits and rising wages, policy makers found only modest political resistance to higher taxes and more regulation to tackle pressing social problems—hence the creation of the Great Society programs, including Medicare, Medicaid, and welfare, under Johnson; and the creation of the Environmental Protection Agency and Occupational Safety and Health Administration under Nixon.

There was only one problem with this liberal triumph—capitalism would not stand still. By the seventies, U.S. productivity growth, the engine of the postwar economy, began to lag. The increased assertiveness of OPEC allowed foreign oil producers to lop off a much bigger share of the global economy, exposing America's vulnerability to disruptions in energy supplies. U.S. companies began to experience competition from low-cost producers in Asia, and by the eighties a flood of cheap imports—in textiles, shoes, electronics, and even automobiles—had started grabbing big chunks of the domestic market. Meanwhile, U.S.-based multinational corporations began locating some of their production facilities overseas—partly to access these foreign markets, but also to take advantage of cheap labor.

In this more competitive global environment, the old corporate formula of steady profits and stodgy management no longer worked. With less ability to pass on higher costs or shoddy products to consumers, corporate profits and market share shrank, and corporate shareholders began demanding more value. Some corporations found ways to improve productivity through innovation and

automation. Others relied primarily on brutal layoffs, resistance to unionization, and a further shift of production overseas. Those corporate managers who didn't adapt were vulnerable to corporate raiders and leveraged buyout artists, who would make the changes for them, without any regard for the employees whose lives might be upended or the communities that might be torn apart. One way or another, American companies became leaner and meaner—with old-line manufacturing workers and towns like Galesburg bearing the brunt of this transformation.

It wasn't just the private sector that had to adapt to this new environment. As Ronald Reagan's election made clear, the people wanted the government to change as well.

In his rhetoric, Reagan tended to exaggerate the degree to which the welfare state had grown over the previous twenty-five years. At its peak, the federal budget as a total share of the U.S. economy remained far below the comparable figures in Western Europe, even when you factored in the enormous U.S. defense budget. Still, the conservative revolution that Reagan helped usher in gained traction because Reagan's central insight—that the liberal welfare state had grown complacent and overly bureaucratic, with Democratic policy makers more obsessed with slicing the economic pie than with growing the pie—contained a good deal of truth. Just as too many corporate managers, shielded from competition, had stopped delivering value, too many government bureaucracies had stopped asking whether their shareholders (the American taxpayer) and their consumers (the users of government services) were getting their money's worth.

Not every government program worked the way it was advertised. Some functions could be better carried out by

From GNP to national income

The final complication is depreciation.

Depreciation is a flow concept telling us how much our effective capital stock is being used up in each time period. Depreciation is an economic cost because it measures resources being used up in the production process.

Depreciation or capital consumption is the rate at which the value of the existing capital stock declines per period as a result of usage or obsolescence.

Our simple example in Table 19.4 ignored depreciation completely. The machine bought by the car maker lasted for ever. We now recognize that machinery wears out. In consequence, the *net* output of the economy is lower. The part of the economy's gross output used merely to replace existing capital is not available for consumption, investment in net additions to the capital stock, government spending or exports.

Similarly, we need to reduce our measure of the incomes available for spending on these goods. Thus, we subtract depreciation from GNP to get net national product (NNP) or national income.

National income is the economy's net national product. It is calculated by subtracting depreciation from GNP at basic prices.

National income measures how much the economy can spend or save, after setting aside enough resources to maintain the capital stock intact by offsetting depreciation.

We have now developed a complete set of national accounts. Figure 19.5 may keep you straight.

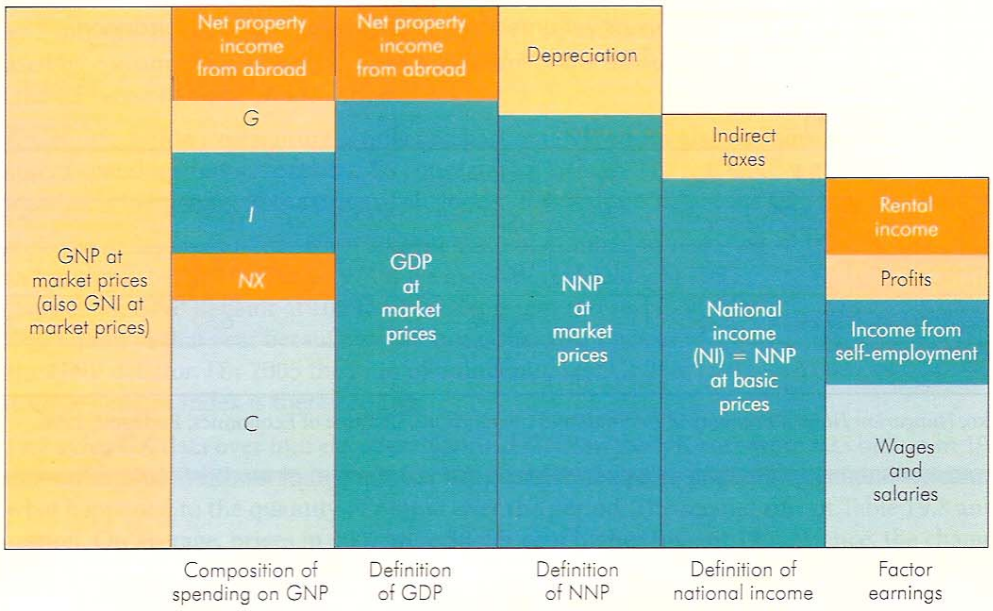


Figure 19.5 National income accounting: a summary

Table 19.5 UK national accounts, 2005 (£bn, current prices)

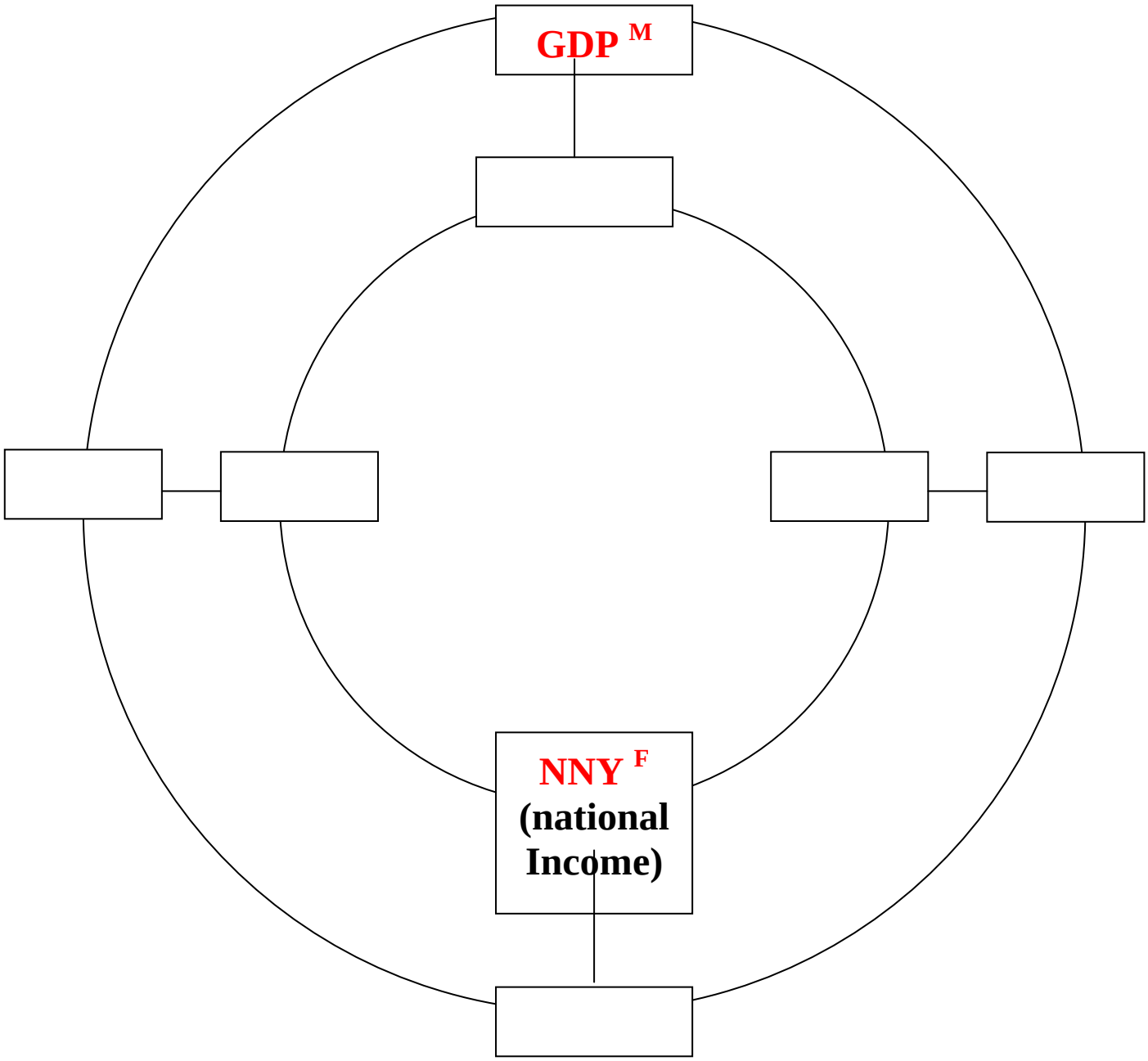
Expenditure measure		Income measure	
At market prices:		Income source: employment	685
C by households	759	Profits and rents	274
C by government and non-profit organizations	301	Other	113
I by private firms and government	210	GDP at basic prices	1072
NX	–45	Indirect taxes	153
GDP at market prices	1225	GDP at market prices	1225
Net property income from abroad	63		
GNP (GNI) at market prices	1288		

Sources: ONS, *UK National Accounts*; OECD, *Economic Outlook*.

Domestic Product and National Income

G - D =	
DP + NIA =	
P^M + SB =	

The way from GDP to National Income



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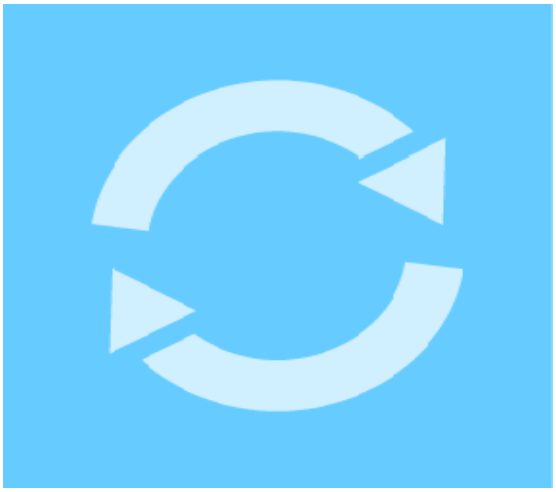

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You may contact us at:
www.destatis.de/contact
Phone: +49 (0) 611 /75 24 05

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Introductory Note

This brochure gives users an overview of the national accounts in Germany. It is produced every year for the press conference "Gross Domestic Product" in January, where, among other things, the German gross domestic product and the net lending/borrowing of general government are published for the preceding year. The electronic version of this brochure is updated regularly with the calculation dates in February, May and August.

Territory

All data refer to the territory of the Federal Republic of Germany since 3 October 1990.

All data to the territory of the former Federal Republic of Germany refer to the Federal Republic of Germany until 3 October 1990, they include Berlin-West.

Explanation of Symbols

– = no figures or magnitude zero
/ = no data because the numerical value is not sufficiently reliable
. = numerical value unknown or not to be disclosed
... = data will be available later
x = cell blocked for logical reasons

Explanatory notes on national accounts (NA)

What are national accounts?

National accounts shall provide a highly comprehensive, well-structured, quantitative picture of an economy. The economic activity of all economic units whose permanent residence is within the economic territory (domestic concept) is covered.

An **economic territory** may refer to the entire national economy (e.g. Federal Republic of Germany) or to parts thereof (e.g. a federal state – *Land*). The region outside the economic territory is called "rest of the world" instead of foreign countries. Generally, the citizenship and the legal form of an economic unit are irrelevant for the delimitation. Production facilities, administrative institutions, etc. which are permanently located in the domestic territory are therefore part of the domestic economic units, irrespective of the ownership structures; in turn, production facilities, administrative institutions, etc. permanently located in other countries but owned by residents are not part of the domestic economic units. Exceptions to this rule include diplomatic and consular representations as well as armed forces.

Economic units are all persons and institutions with their economic activities, which are important for describing the course of the economy (production, distribution, consumption, capital formation, financing). They are aggregated into large groups (economic sectors, institutional sectors). The smallest units to be considered are institutions, which either have a balance sheets of their own or for which it would be possible in legal and economic terms to set up a complete business accounting system. In national accounts the following sectors are distinguished:

- Non-financial corporations (e.g. corporations and partnerships such as public limited companies, limited liability companies, general partnerships and limited partnerships, non-autonomous undertakings of general government or non-profit institutions serving households such as hospitals and nursing homes; economic associations)
- Financial corporations (e.g. banks, insurances, auxiliaries)
- General government (central government (Federation), state government (Länder), local government (municipalities and social security funds)
- Households (as consumers, but also as producers, such as self-employed farmers, carriers, insurance agents, sole proprietorships, traders, restaurant owners, "freelancers")
- Non-profit institutions serving households (e.g. political parties, trade unions, churches, welfare organizations, and associations, serving private households)

The most important national accounts aggregate is the **gross domestic product (GDP)**, which measures the domestic production of goods and services minus the intermediate consumption of goods and services. The rate of change in price-adjusted gross domestic product indicates economic development and is also referred to as **economic growth** (see "Gross domestic product", page 8).

How are the national accounts structured?

National accounts are the sum of several stock and flow calculations, which represent the economic events in a past period. National accounts for the Federal Republic of Germany are mainly compiled by the Federal Statistical Office. German national accounts consist of the domestic product calculations, the input-output accounts, the national wealth accounts, the employment accounts, the labour volume accounts and the financial accounts.

The **domestic product calculations** provide an aggregated picture of the economic performance in a total economy within a specific period. Data on the production, use and distribution of the gross domestic product are calculated and published. The results, especially GDP, are important figures for assessing and designing economic policies.

Input-output tables show production-related and product-related interactions within the total economy and the rest of the world in a detailed breakdown.

They are used, for instance, as a basis for analyses of economic structures and of the direct and indirect effects of changes in demand, prices and wages on the economy as a whole and on its individual branches.

National wealth accounts provide data on the level, composition and change of assets as well as the deprecation on fixed assed. The Federal Statistical Office supplies information on selected non-financial assets of the economy –mainly on the stock of fixed assets – and on the stock of consumer durables of households. Financial assets, which are another component of national wealth accounts, are calculated and published by the Deutsche Bundesbank.

Employment accounts compiled in the context of national accounts provide quarterly and annual average figures for persons in employment and economically active population based on the so-called ILO concept (concept of the International Labour Organization). The results of employment accounts are used as autonomous indicators, as reference values to determine further indicators, for example labour productivities, and for calculating the labour volume accounts.

Labour volume accounts indicate the actual number of hours worked by all persons in employment who perform an economic activity within Germany. The relevant numbers are compiled by the Institute for Employment Research of the Federal Employment Agency in co-operation with the Federal Statistical Office.

Financial accounts contain information on financial transactions in the economy. They show what institutional sector (household sector, corporation sector or general government sector) provide or consume financial resources to what extent and in what and also how financial intermediaries (i.e. banks, insurance companies and investment funds) are integrated in the financing circuit. In Germany, the Deutsche Bundesbank is responsible for compiling financial accounts.

What is the legal basis for compiling national accounts?

The calculation of national accounts within the European Union (EU) is legally established through binding legal acts, so-called regulations. Council Regulation (EC) No 549/2013 refers to the European System of National and Regional Accounts (ESA 2010) and the associated transmission programme. They prescribe the way in which all Member States must calculate their national and regional accounts data and the results to be transmitted. Since September 2014, the "European System of National and Regional Accounts" (ESA) 2010 in the European Union has been the basis for these calculations. Concepts, definitions, classifications, the timing and frequency of the delivery of results are regulated in the ESA. This ensures that Europe-wide harmonized results are available for political and economic decisions. The ESA 2010 is based on the United Nations System of National Accounts (SNA) 2008, which is used worldwide.

Who are the users of national accounts data?

National accounts provide important data for assessing and shaping economic, financial, social and other policies. The political community, economic actors and administration base their work and decisions on the information provided by the national accounts. Among other things, national accounts data form the basis for expert opinions, economic forecasts, tax revenue estimates, pension adjustments and collective wage negotiations.

National users are especially the Federal Government (in particular the Federal Ministry of Economics and Technology, the Federal Ministry of Finance and the Federal Chancellery), the Deutsche Bundesbank, the German Council of economic Experts, economic research institutes, universities and the media.

Major users of national accounts data at international level are the Statistical Office of the European Community (Eurostat), the European Central Bank (ECB), the Organization for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF) and the United Nations (UN). Within the European Union (EU), the information on gross national income (GNI) is used, for example, to calculate the EU own resources, this means the membership contributions of the individual countries to the EU. The national accounts data are also needed to monitor and control the European monetary policy. The convergence criteria for the European Monetary Union are based on national accounting aggregates (government deficit, government debt and gross domestic product).

Where does the data for the calculation of national accounts come from?

All suitable continuous surveys of economic statistics that are available at the time of publication or revision are used to calculate the national accounts results. Also, other data sources are evaluated, such as administrative data (for example financial and tax statistics, data of the Federal Employment Agency), business statistics and annual accounts of large enterprises (for example Lufthansa, Deutsche Telekom, credit institutions), household surveys (sample survey of income and expenditure (EVS), micro census) and information from associations.

A detailed description of the methods and basics for calculating the gross domestic product and gross national income for Germany can be found in the Fachserie 18, series S.30, "Domestic product and national income according to ESA 2010 - methods and basics".

How are the results of national accounts price adjusted?

National accounts results are price adjusted in order to determine the "real" development of the economy, i.e. without taking price changes into account. In difference to nominal results, which are measured in the prices of the current reference year, "real" values are adjusted for price effects.

The price and volume measures are based on a price base changing every year (previous year's prices). In contrast to the fixed price basis, the use of the current previous year as the reference year means that the current price relations are always taken into account in the calculation. This makes the calculation of the "real" changes (specifically the gross domestic product) more exact.

In the method of the previous year's prices, the values of a year are deflated by means of price indices, which are always based on the annual average of the previous year. Thus, one gets a sequence of annual results in constant prices of the previous year with relevant key figures. By chain linking these key figures, a similar long time series is determined in the form of chain indices for each feature.

Why are national accounts results so frequently revised?

In Germany, the results of the national accounts are regularly revised in the course of revisions, for example by incorporating new data, new statistics, new definitions and/or new methods into the national accounts. A distinction is made between regular revisions and comprehensive or **major revisions**. Regular revisions refer to minor corrections for individual quarters or years. They are performed in the course of current calculations and can generally occur during any release date. Such revisions are performed to include into the system current information that differs significantly from the data bases available before. In this way, data users are supplied with the best possible results for analyses and forecasts. A higher timeliness also usually means more frequent and, regarding its extent, larger regular revisions.

In Germany, major revisions of national accounts data take place approximately every five years (most recently in 2014 and 2019). These major revisions of the entire national accounts data and the corresponding time series are necessary, for example, to integrate new concepts and definitions.

When are national accounts results published?

National accounts are compiled for years and quarters. The first annual results are published at a press conference in mid-January of the following year. The gross domestic product (GDP) for a quarter is published for the first time in a rapid release about 30 days after the end of the quarter, i.e. tend of January, end of April, end of July and end of October. The detailed results of the domestic product calculation are announced in a detailed press release about 55 days after the end of the quarter, together with the revised GDP result. The quarterly data are consistently linked to the annual results. The quarterly and annual results are not only calculated for the first time, but the results for the current year and the last four years (August date) are also routinely reviewed and - if necessary - revised.

The current publication calendar is available on our website *www.destatis.de › EN › Press › Annual release calendar*.

Where are the results of national accounts published?

National accounts for Germany

The results of national accounts for Germany are published by the Federal Statistical Office. Under www.destatis.de/EN/Home you will find press releases, texts, tables and graphs on quarterly and annual GDP, on detailed results of the domestic product, on the EU Stability Pact, on the input-output accounts and on the balance sheets. Under "Publications" all current series and supplements of the Fachserie 18 "National Accounts" are available for free download.

Time series and tables are also available in the GENESIS-Online database (https://www-genesis.destatis.de/genesis/online).

Contact:
Domestic product: GDP-info team, phone: +49 (0) 611 / 75-2626, email: gdp-info@destatis.de

Input-output: Telephone: +49 (0) 611 / 75-2626, email: input-output@destatis.de

Internet: *www.destatis.de › Our topics › Economy › National-accounts-domestic-product*

Regional accounts

The regional accounts for the federal states and counties of the Federal Republic of Germany are issued and published by the working group "Regional Accounts".

Contact:
Statistisches Landesamt Baden-Württemberg, Böblinger Str. 68, 70199 Stuttgart,
Telephone: +49 (0) 711 / 641-2470 or -2471, email: vgr@stala.bwl.de, Internet: www.statistik-bw.de/VGRdL

International economic accounts

The International Statistics Unit of the Federal Statistical Office helps in the search for harmonized international comparative data.

Contact:
www.destatis.de/kontakt
Internet: *www.destatis.de › Our topics › Countries and regions*

Release calendar for national accounts data

Fachserie 18 – National accounts

Series 1: Domestic Product

January	February	March
Series 1.1 First annual results	**Series 1.2** Quarterly results **Series 1.3** Seasonally adjusted quarterly results using X13	**Series 1.4** Detailed annual results (Status February) **Series 1.5** Long Time Series (Status February)
April	**May**	**June**
	Series 1.2 Quarterly results **Series 1.3** Seasonally adjusted quarterly results using X13	**Series 1.4** Detailed annual results (Status May) **Series 1.5** Long Time Series (Status May)
July	**August**	**September**
	Series 1.2 Quarterly results **Series 1.3** Seasonally adjusted quarterly results using X13	**Series 1.4** Detailed annual results (Status August) **Series 1.5** Long Time Series (Status August)
October	**November**	**December**
	Series 1.2 Quarterly results **Series 1.3** Seasonally adjusted quarterly results using X13	

Series 2: Input-Output (appears irregularly)

Release calendar 2022

14.01.2022	Press conference "Gross domestic product 2021 for Germany" (first annual results)
28.01.2022	First results for the 4th quarter of 2021 (GDP only)
25.02.2022	Detailed results for the 4th quarter 2021
29.04.2022	First results for the 1st quarter of 2022 (GDP only)
25.05.2022	Detailed results for the 1st quarter 2022
29.07.2022	First results for the 2nd quarter of 2022 (GDP only)
25.08.2022	Detailed results for the 2nd quarter 2022
28.10.2022	First results for the 3rd quarter of 2022 (GDP only)
25.11.2022	Detailed results for the 3rd quarter 2022

The Gross Domestic Product (GDP)

What is the gross domestic product?

The gross domestic product measures the economic performance of an economy within a specific period. It measures the value of goods and services produced within the economy minus the intermediate consumption of goods and services. The gross domestic product can be shown not only in nominal terms (i.e. at current prices), but also in price adjusted terms. Price adjustment in national accounts is based on a price base changing every year (previous year's price base). On the basis of previous year's prices, the "real" economic development over time is presented without any price effects. The rate of change in the price adjusted GDP measures the economic growth of an economy. The GDP is therefore one of the most important figures in national accounts.

The calculation of GDP for Germany is based on international rules and conventions, especially the legally binding European System of Accounts (ESA) 2010. According to these international rules, certain areas are not part of GDP, for example, housework or negative external effects such as environmental pollution or natural disasters. In contrast, shadow economic activities are included in the calculation of GDP. With the implementation of the new national accounts concepts (ESA 2010), illegal production activities (drug economy, tobacco smuggling, and prostitution) are also included in GDP.

How is the gross domestic product calculated?

In Germany, the gross domestic product is calculated both on the production and the expenditure side.

The production approach determines GDP by calculating the value added of all producers as the difference between the value of the goods and services (output) and the intermediate consumption. The gross value added of the individual industries is first determined. The gross domestic product is calculated by adding taxes on products (such as tobacco, mineral oil or value added tax) minus subsidies on products to the total of the gross value added of all industries (transition from basic prices to market prices).

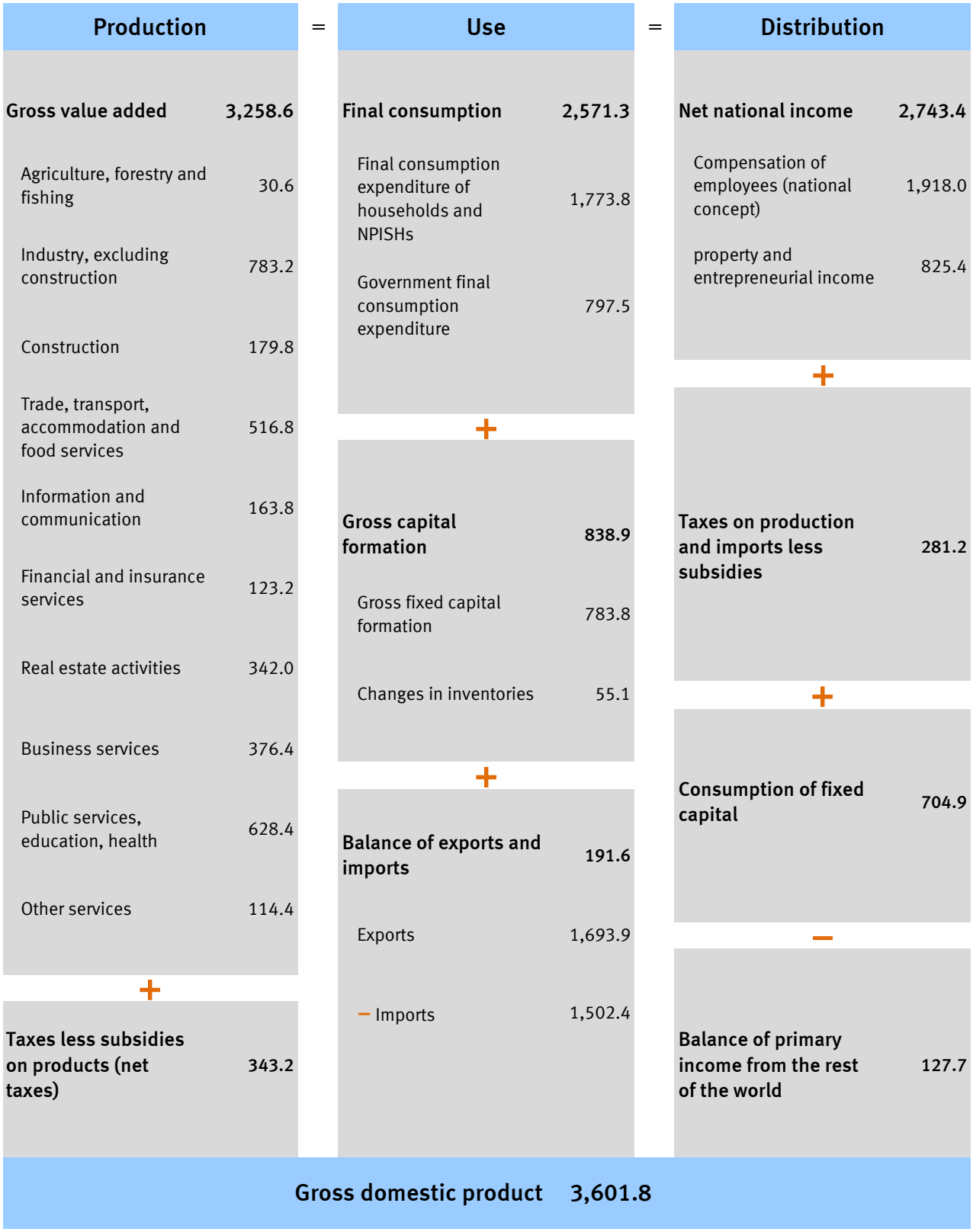
The expenditure approach defines how the domestic goods and services were used: They can be consumed, invested domestically or exported abroad. GDP is the total of private and government consumption expenditure, investments and the external balance (exports minus imports).

An independent, complete calculation of GDP using the distribution approach - i.e. based on the different types of income - is not possible in Germany, because of missing data on the operating surplus or the property and entrepreneurial income. These figures are derived as a balancing item from the macroeconomic cycle. The results of the distribution calculation are used, among other things, to plausibilise GDP and to form macroeconomic indicators.

Graph 1

Production, Use and Distribution of Gross Domestic Product 2021

in EUR bn.

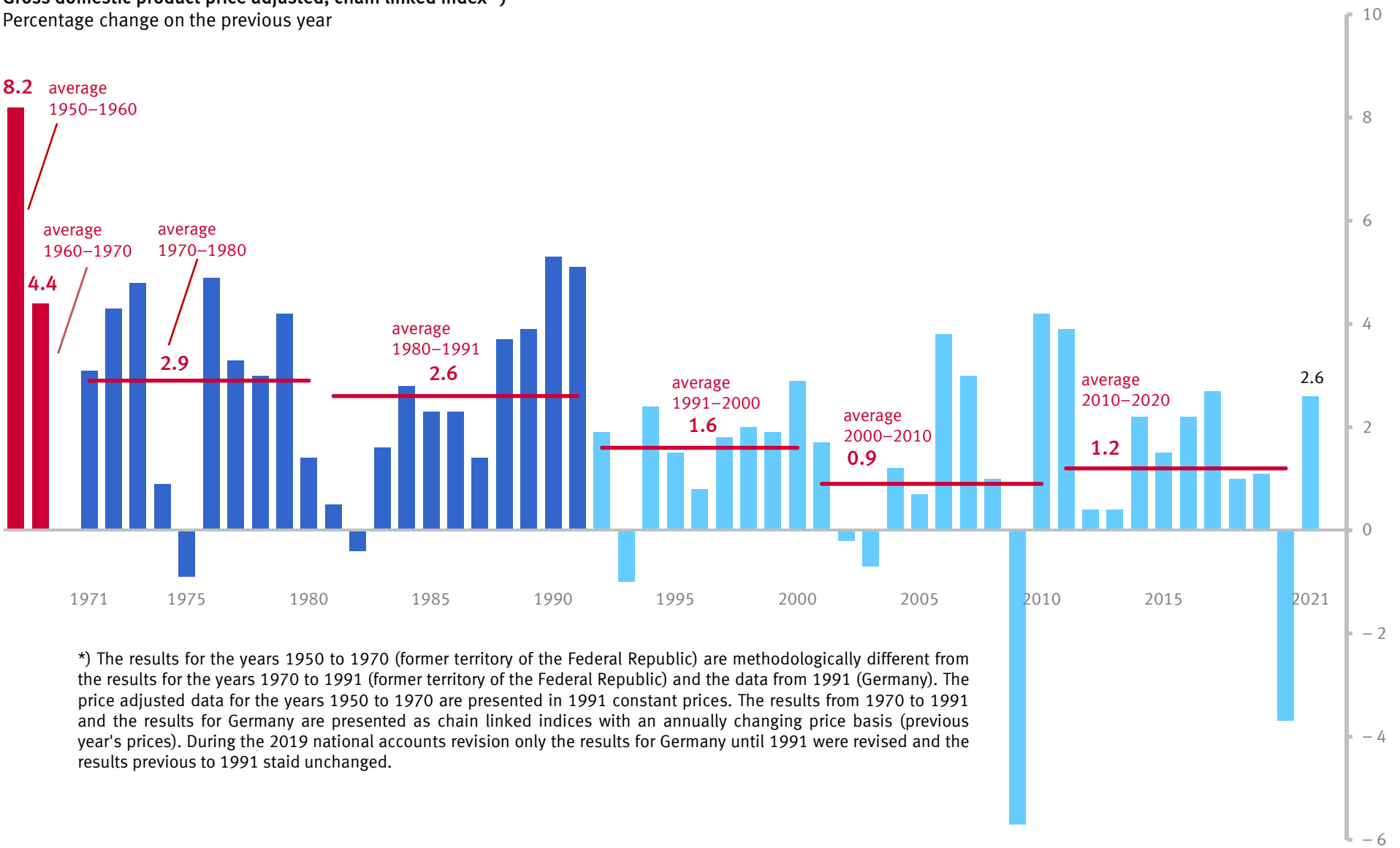


Graph 2

Economic growth

Gross domestic product price adjusted, chain linked index *)

Percentage change on the previous year



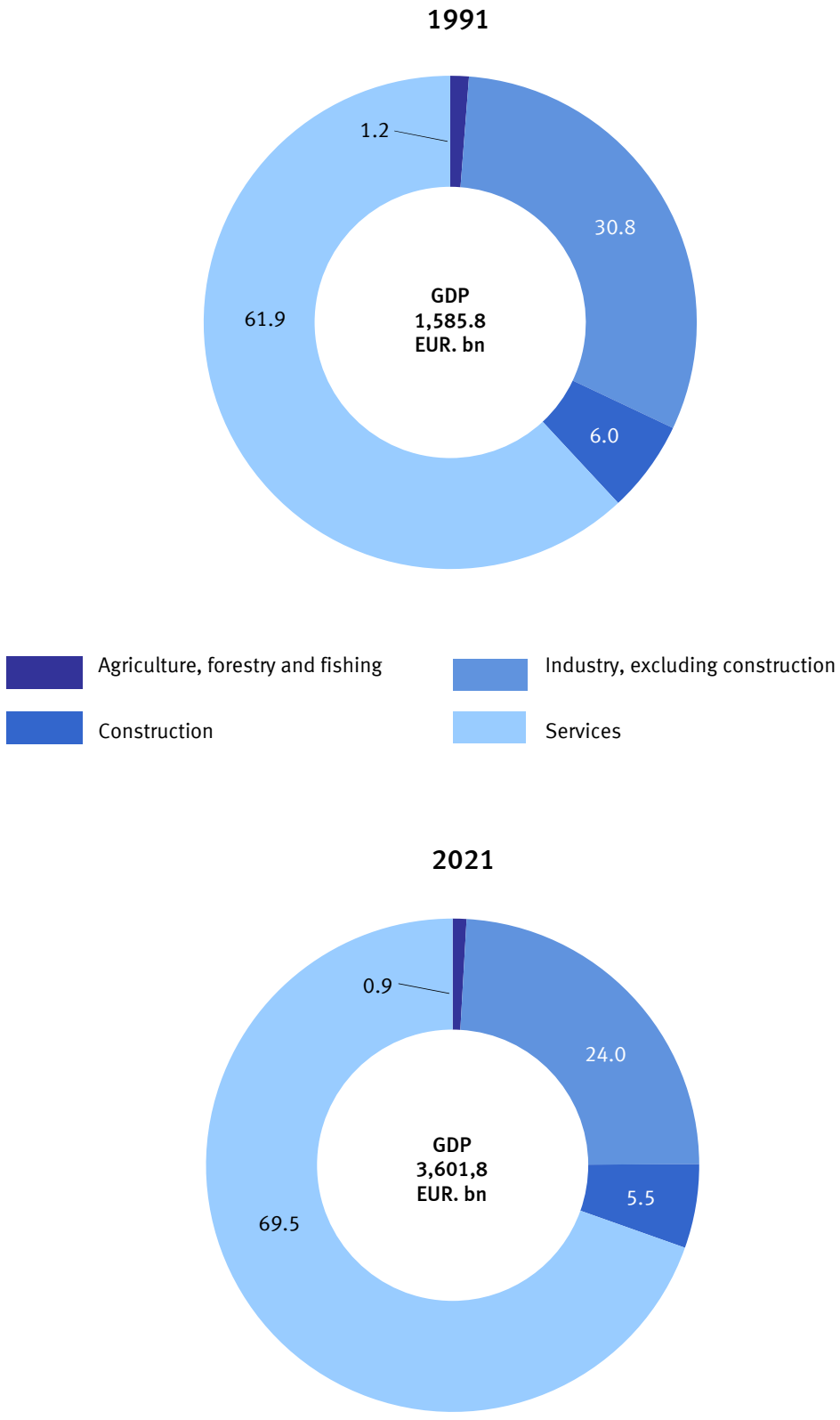
*) The results for the years 1950 to 1970 (former territory of the Federal Republic) are methodologically different from the results for the years 1970 to 1991 (former territory of the Federal Republic) and the data from 1991 (Germany). The price adjusted data for the years 1950 to 1970 are presented in 1991 constant prices. The results from 1970 to 1991 and the results for Germany are presented as chain linked indices with an annually changing price basis (previous year's prices). During the 2019 national accounts revision only the results for Germany until 1991 were revised and the results previous to 1991 staid unchanged.

Graph 3

Production of gross domestic product

Economic structure 1991 and 2021

% of nominal gross value added

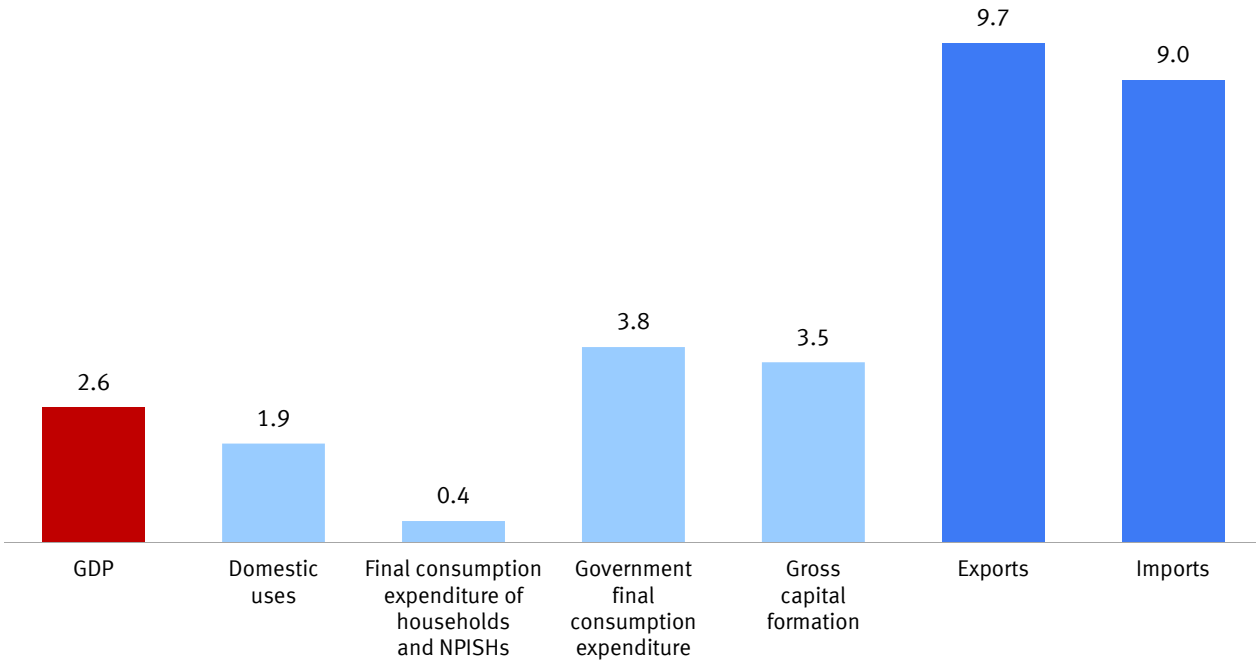


Graph 4

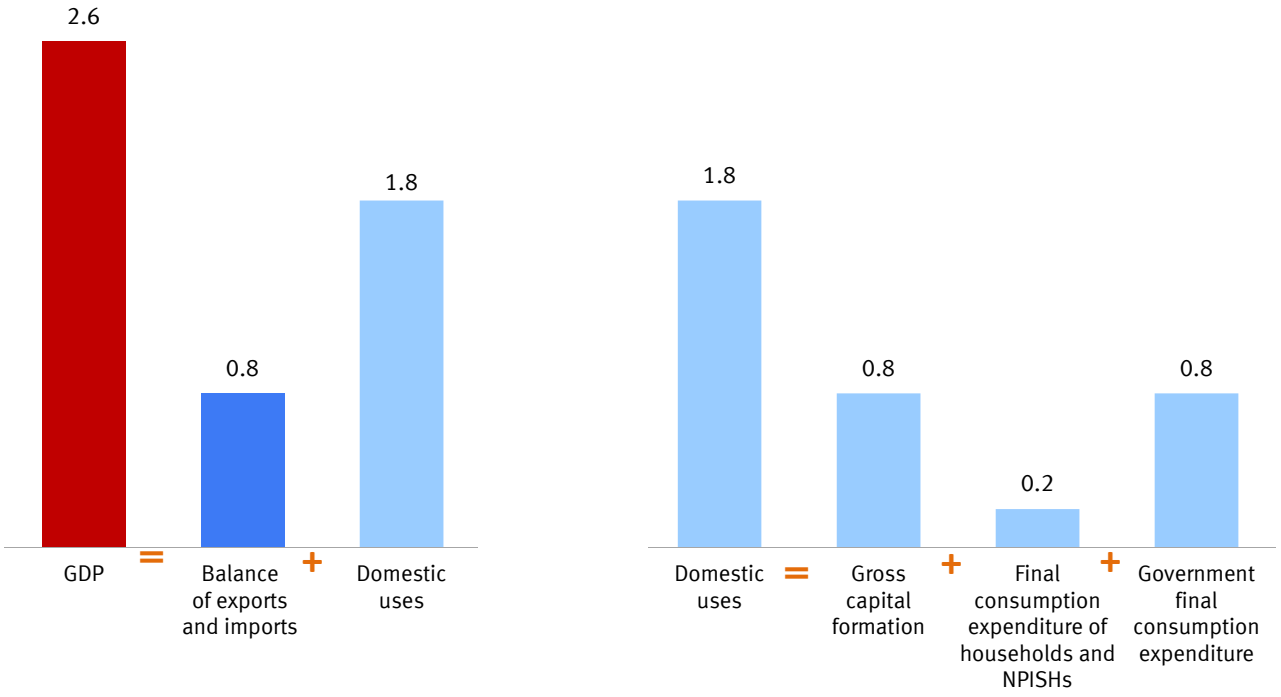
Use of gross domestic product 2021

Price-adjusted

Change on the previous year in %



Contribution to growth in %-points

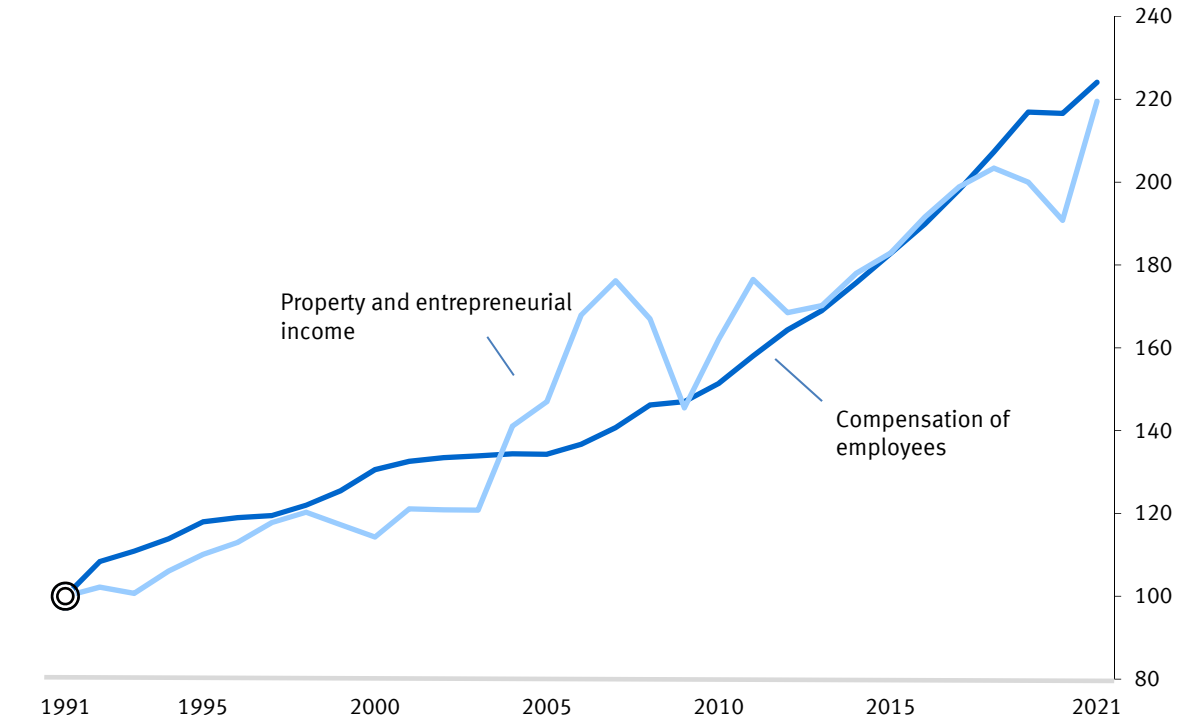


Graph 5

Distribution of gross domestic product

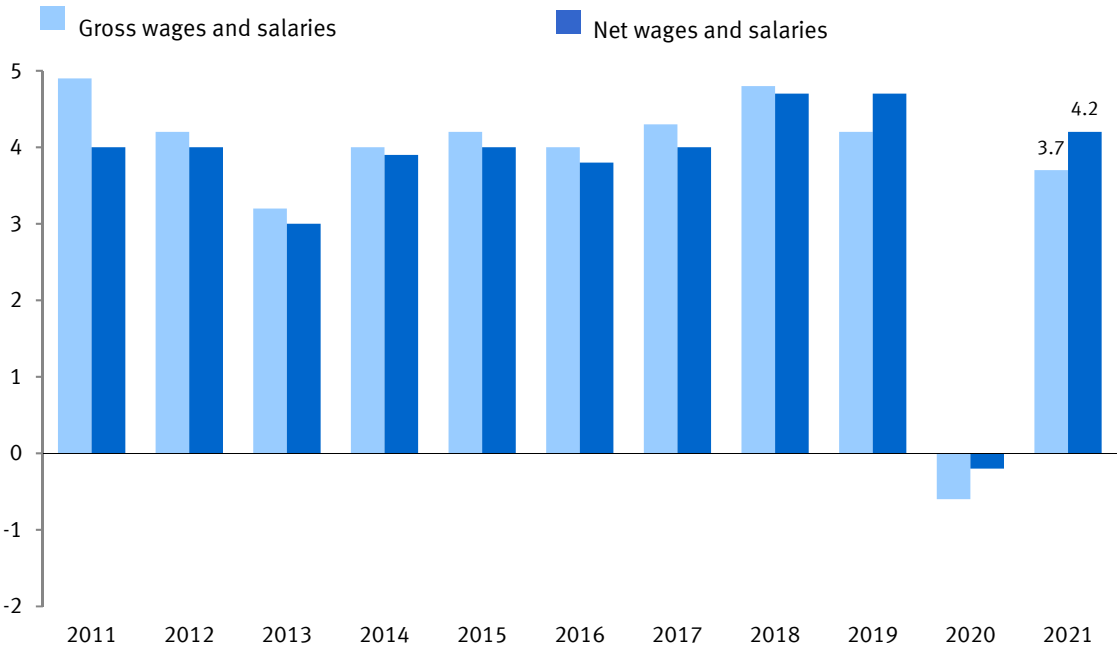
Compensation of employees, property and entrepreneurial income

1991 = 100



Gross or net wages and salaries

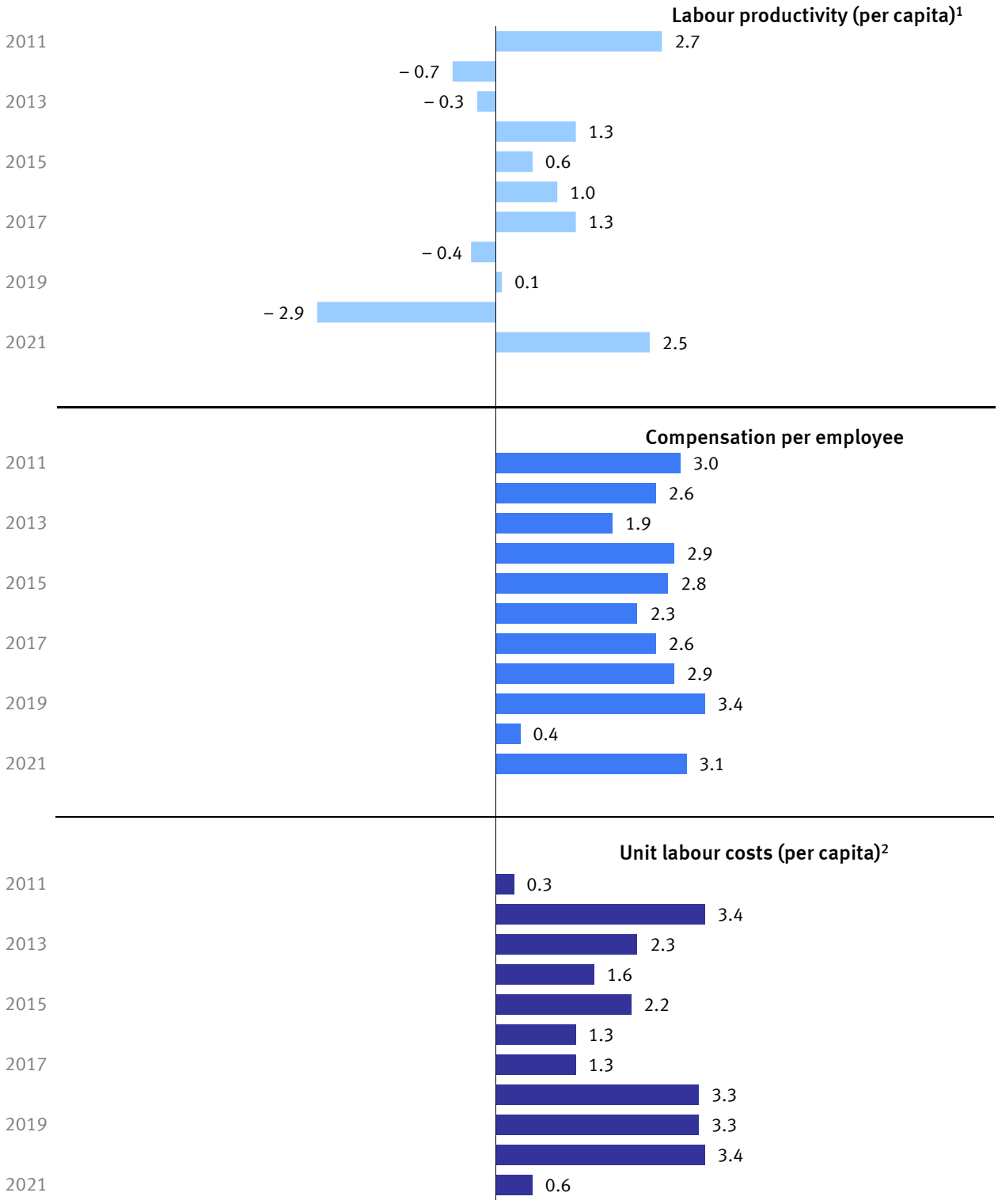
Change on the previous year in %



Graph 6

Labour productivity and compensation per employee

Change on the previous year in %

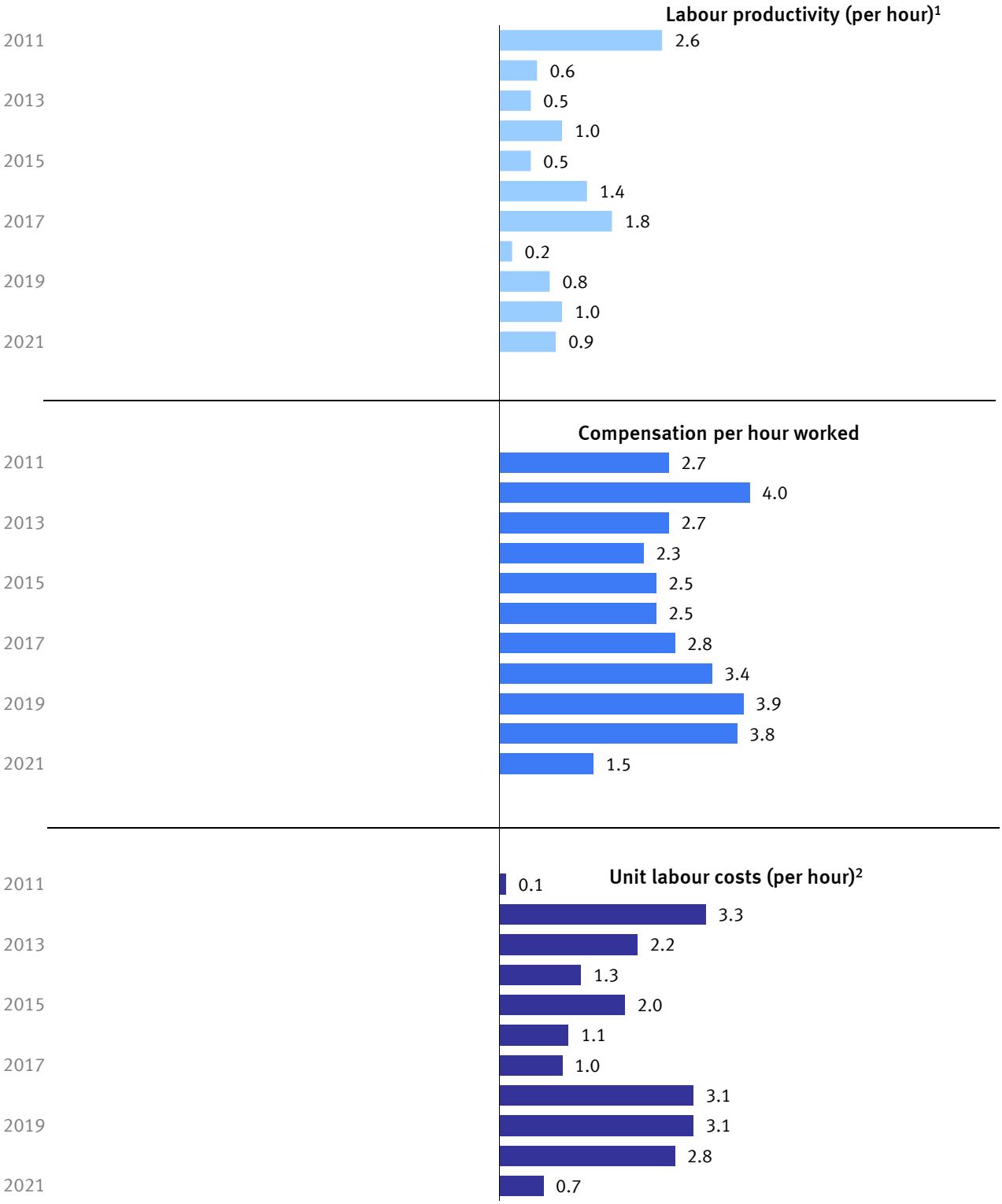


1 Gross domestic product (price-adjusted) per person employed. 2 Compensation per employee in relation to labour productivity per person employed.

Graph 7

Labour productivity and compensation per hour

Change on the previous year in %

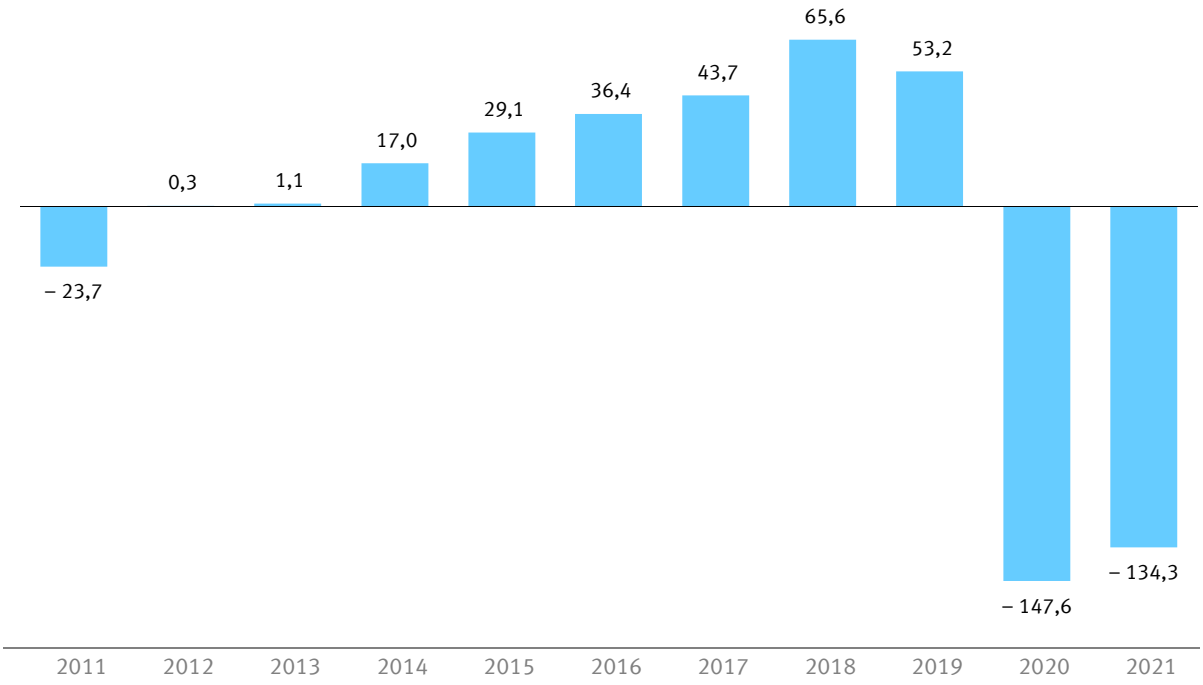


1 Gross domestic product (price-adjusted) per hour worked. 2 Compensation per hour worked in relation to labour productivity per hour worked.

Graph 8

Net lending/net borrowing by general government

EUR bn.



in % of gross domestic product

Maastricht Treaty deficit ceiling and European Stability and Growth Pact.

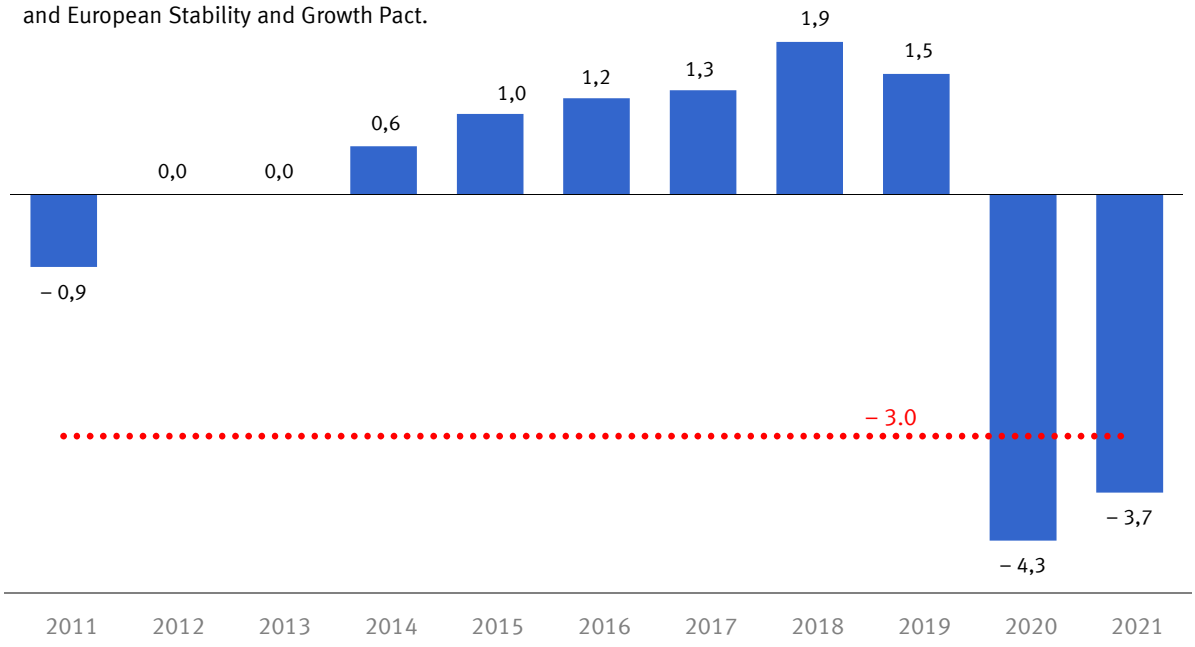


Table 1
Gross Domestic Product, Gross National Income, National Income (Factor Costs) *)

Year	Gross domestic product		Gross domestic product	Gross national income	National income (factor costs)	Gross domestic product	Gross national income	National Income (factor costs)
	price-adjusted		at current prices			at current prices per capita 1)		
	dimension 2)	%	EUR bn 3)			EUR 3)		
	Former Territory of the Federal Republic excluding Berlin and Saarland							
1925	–	–	–	41.60	34.00	–	1,170	540
1926	–	–	–	43.60	35.60	–	1,210	560
1927	–	–	–	48.70	39.90	–	1,350	620
1928	–	–	–	52.10	42.90	–	1,430	670
1929	–	–	–	52.30	42.90	–	1,430	660
1930	–	–	–	48.80	39.30	–	1,330	600
1931	–	–	–	40.80	31.90	–	1,100	490
1932	–	–	–	33.60	25.30	–	900	380
1933	–	–	–	34.50	26.10	–	920	400
1934	–	–	–	38.80	29.90	–	1,030	450
1935	–	–	–	43.20	33.70	–	1,140	500
1936	–	–	–	47.90	37.90	–	1,260	560
1937	–	–	–	53.80	42.40	–	1,400	630
1938	–	–	–	59.20	47.30	–	1,520	690
	Former Territory of the Federal Republic excluding Berlin-West and Saarland							
1950	218.17	–	49.69	50.41	40.14	1,059	1,075	856
1951	239.34	9.7	61.00	61.71	48.73	1,287	1,302	1,028
1952	261.68	9.3	69.75	70.51	55.35	1,461	1,477	1,160
1953	284.99	8.9	74.92	75.62	59.24	1,555	1,570	1,230
1954	307.13	7.8	80.41	80.84	63.35	1,651	1,660	1,301
1955	344.30	12.1	91.89	92.29	72.68	1,868	1,876	1,477
1956	370.89	7.7	101.58	102.00	80.70	2,040	2,048	1,621
1957	393.39	6.1	110.72	111.15	88.45	2,195	2,204	1,754
1958	410.93	4.5	118.95	119.23	94.73	2,330	2,335	1,855
1959	443.24	7.9	130.31	130.33	103.06	2,524	2,524	1,996
1960	481.38	8.6	146.04	146.23	116.14	2,799	2,802	2,226
	Former Territory of the Federal Republic							
1960	511.29	–	154.77	154.92	122.77	2,792	2,795	2,215
1961	534.96	4.6	169.60	169.44	133.32	3,019	3,016	2,373
1962	559.92	4.7	184.46	184.32	144.24	3,245	3,243	2,538
1963	575.66	2.8	195.50	195.36	152.26	3,407	3,404	2,653
1964	614.01	6.7	214.83	214.54	167.32	3,706	3,701	2,886
1965	646.89	5.4	234.77	234.27	183.27	4,005	3,997	3,127
1966	664.94	2.8	249.63	249.20	194.18	4,220	4,213	3,283
1967	662.89	-0.3	252.76	252.42	194.67	4,263	4,258	3,284
1968	699.04	5.5	272.66	272.88	213.77	4,583	4,586	3,593
1969	751.19	7.5	305.22	305.65	236.70	5,081	5,088	3,941
1970	789.03	5.0	345.28	345.48	271.19	5,693	5,696	4,471
	Former Territory of the Federal Republic (results of the revision 2005)							
1970	56.82	–	360.60	361.64	282.12	5,945	5,963	4,652
1971	58.60	3.1	400.24	400.84	311.41	6,529	6,539	5,080
1972	61.12	4.3	436.37	436.62	339.62	7,076	7,080	5,507
1973	64.04	4.8	486.02	486.23	380.29	7,842	7,845	6,136
1974	64.61	0.9	526.02	526.25	411.42	8,477	8,481	6,630
1975	64.05	-0.9	551.01	552.02	430.46	8,912	8,928	6,962
1976	67.22	4.9	597.40	598.99	467.73	9,709	9,735	7,602
1977	69.47	3.3	636.54	637.22	497.17	10,367	10,378	8,097
1978	71.56	3.0	678.94	682.10	531.55	11,071	11,122	8,667
1979	74.53	4.2	737.37	738.61	573.25	12,017	12,038	9,343
1980	75.58	1.4	788.52	789.98	609.30	12,808	12,831	9,897
1981	75.98	0.5	825.79	825.90	635.47	13,388	13,390	10,302
1982	75.68	-0.4	860.21	859.56	659.60	13,956	13,945	10,701
1983	76.87	1.6	898.27	900.40	689.54	14,624	14,659	11,226
1984	79.04	2.8	942.00	947.93	726.53	15,398	15,495	11,876
1985	80.88	2.3	984.41	990.68	762.35	16,132	16,234	12,493
1986	82.73	2.3	1,037.13	1,041.19	805.71	16,984	17,050	13,194
1987	83.89	1.4	1,065.13	1,067.75	825.38	17,439	17,482	13,514
1988	87.00	3.7	1,123.29	1,131.66	878.15	18,280	18,416	14,290
1989	90.39	3.9	1,200.66	1,211.11	938.71	19,346	19,514	15,125
1990	95.14	5.3	1,306.68	1,317.94	1,017.91	20,658	20,836	16,092
1991	100.00	5.1	1,415.80	1,417.81	1,088.98	22,096	22,128	16,996

Gross Domestic Product, Gross National Income, National Income (Factor Costs) *)

Year	Gross domestic product		Gross domestic product	Gross national income	National income (factor costs)	Gross domestic product	Gross national income	National Income (factor costs)
	price-adjusted		at current prices			at current prices per capita 1)		
	dimension 2)	%	EUR bn			EUR		
	Germany							
1991	73.32	–	1,585.800	1,601.392	1,231.915	19,829	20,024	15,404
1992	74.73	1.9	1,702.060	1,717.115	1,312.227	21,144	21,331	16,301
1993	74.00	– 1.0	1,750.890	1,762.243	1,327.942	21,630	21,771	16,405
1994	75.77	2.4	1,829.550	1,830.687	1,373.463	22,546	22,560	16,926
1995	76.94	1.5	1,894.610	1,892.016	1,423.699	23,302	23,270	17,510
1996	77.56	0.8	1,921.380	1,921.656	1,443.476	23,585	23,588	17,719
1997	78.95	1.8	1,961.150	1,957.405	1,465.354	24,060	24,014	17,978
1998	80.54	2.0	2,014.420	2,002.895	1,496.754	24,733	24,592	18,377
1999	82.06	1.9	2,059.480	2,045.234	1,515.354	25,294	25,119	18,611
2000	84.45	2.9	2,109.090	2,097.226	1,547.238	25,892	25,746	18,995
2001	85.87	1.7	2,172.540	2,157.280	1,590.503	26,651	26,464	19,511
2002	85.70	– 0.2	2,198.120	2,174.801	1,596.810	26,945	26,659	19,574
2003	85.10	– 0.7	2,211.570	2,189.106	1,600.084	27,120	26,844	19,621
2004	86.10	1.2	2,262.520	2,276.187	1,680.822	27,776	27,944	20,635
2005	86.73	0.7	2,288.310	2,307.203	1,701.833	28,134	28,366	20,923
2006	90.04	3.8	2,385.080	2,425.419	1,801.311	29,383	29,880	22,191
2007	92.72	3.0	2,499.550	2,535.845	1,867.151	30,862	31,310	23,054
2008	93.61	1.0	2,546.490	2,570.665	1,879.477	31,530	31,829	23,271
2009	88.28	– 5.7	2,445.730	2,500.874	1,805.320	30,388	31,073	22,431
2010	91.97	4.2	2,564.400	2,615.840	1,905.093	31,942	32,582	23,729
2011	95.58	3.9	2,693.560	2,762.535	2,016.079	33,554	34,413	25,115
2012	95.98	0.4	2,745.310	2,811.180	2,039.759	34,135	34,954	25,362
2013	96.40	0.4	2,811.350	2,876.449	2,086.774	34,860	35,668	25,876
2014	98.53	2.2	2,927.430	2,986.082	2,173.300	36,149	36,873	26,836
2015	100.00	1.5	3,026.180	3,095.143	2,252.756	37,046	37,890	27,578
2016	102.23	2.2	3,134.740	3,212.504	2,345.503	38,067	39,011	28,482
2017	104.97	2.7	3,267.160	3,345.005	2,444.239	39,527	40,469	29,571
2018	106.00	1.0	3,365.450	3,478.910	2,539.156	40,594	41,962	30,627
2019	107.12	1.1	3,473.260	3,590.147	2,608.213	41,800	43,206	31,389
2020	103.16	– 3.7	3,405.430	3,505.697	2,571.571	40,950	42,156	30,923
2021	105.87	2.6	3,601.750	3,729.498	2,743.414	43,292	44,828	32,975

*) The results for the years 1925 to first entry of 1970 (former territory of the Federal Republic) are methodologically different from the results for the years 1970 to 1991 (former territory of the Federal Republic) and the data from 1991 (Germany). – 1) From 2011 onwards results of current population statistic, before that back calculations based on the 2011 census. – 2) 1950 to first entry of 1970 (former territory of the Federal Republic) in EUR bn, 1970 to 1991 (former territory of the Federal Republic) chain-linked indices 1991 = 100, from 1991 (Germany) chain-linked indices 2015 = 100. – 3) For the period 1925 to 1938, results of the Statistische Reichsamt in RM bn or Reichsmark, converted to the former federal territory.

Table 2
Value added, domestic product and income

	Specification	2015	2016	2017	2018	2019	2020	2021
		At current prices						
		EUR bn.						
	Value added and domestic product							
1	Gross value added	2,722.020	2,822.443	2,944.074	3,032.736	3,129.717	3,087.963	3,258.567
2	+ Net taxes on products	304.160	312.297	323.086	332.714	343.543	317.467	343.183
3	Taxes on products	310.942	319.143	329.847	339.600	350.942	325.939	365.008
4	less: subsidies on products	6.782	6.846	6.761	6.886	7.399	8.472	21.825
5	= Gross domestic product	3,026.180	3,134.740	3,267.160	3,365.450	3,473.260	3,405.430	3,601.750
6	– Consumption of fixed capital	542.758	558.689	581.352	609.855	640.366	661.662	704.931
7	= Net domestic product	2,483.422	2,576.051	2,685.808	2,755.595	2,832.894	2,743.768	2,896.819
8	Net taxes on production 1)	302.012	309.679	320.978	331.407	343.063	274.448	283.946
9	Compensation of employees (domestic concept)	1,561.976	1,622.728	1,693.096	1,771.262	1,853.274	1,848.790	1,913.709
10	Operating surplus/mixed income	619.434	643.644	671.734	652.926	636.557	620.530	699.164
	National income and net national income (factor costs)							
11	Gross domestic product	3,026.180	3,134.740	3,267.160	3,365.450	3,473.260	3,405.430	3,601.750
12	+ Primary income from the rest of the world	201.897	212.192	208.016	240.420	237.802	204.949	234.626
13	– Primary income to the rest of the world	132.934	134.428	130.171	126.960	120.915	104.682	106.878
14	= Gross national income	3,095.143	3,212.504	3,345.005	3,478.910	3,590.147	3,505.697	3,729.498
15	– Consumption of fixed capital	542.758	558.689	581.352	609.855	640.366	661.662	704.931
16	= Net national income (primary income)	2,552.385	2,653.815	2,763.653	2,869.055	2,949.781	2,844.035	3,024.567
17	– Taxes on production and imports 2)	327.044	335.128	345.768	356.565	369.769	345.821	392.757
18	+ Subsidies 3)	27.415	26.816	26.354	26.666	28.201	73.357	111.604
19	= Net national income (factor costs)	2,252.756	2,345.503	2,444.239	2,539.156	2,608.213	2,571.571	2,743.414
20	Compensation of employees (national concept)	1,564.814	1,625.050	1,696.317	1,774.011	1,856.155	1,853.918	1,918.027
21	Property and entrepreneurial income	687.942	720.453	747.922	765.145	752.058	717.653	825.387
	National income and national disposable income							
22	Net national income (primary income)	2,552.385	2,653.815	2,763.653	2,869.055	2,949.781	2,844.035	3,024.567
23	+ Current transfers from the rest of the world	71.354	66.303	67.947	70.013	80.603	83.950	88.673
24	– Current transfers to the rest of the world	108.269	103.199	114.706	116.424	126.214	133.968	141.326
25	= National disposable income	2,515.470	2,616.919	2,716.894	2,822.644	2,904.170	2,794.017	2,971.914
		Price-adjusted						
		Chain-linked index (2015 = 100)						
26	Gross value added	100.00	102.25	105.11	106.10	106.98	102.84	105.58
27	Gross domestic product	100.00	102.23	104.97	106.00	107.12	103.16	105.87
28	Consumption of fixed capital	100.00	101.78	103.71	105.85	108.17	110.18	111.78
29	Net domestic product	100.00	102.33	105.25	106.04	106.89	101.60	104.55
		Deflators 4)						
		Index (2015 = 100)						
30	Gross value added	100.00	101.41	102.90	105.00	107.48	110.31	113.38
31	Gross domestic product	100.00	101.33	102.85	104.92	107.14	109.08	112.42
32	Consumption of fixed capital	100.00	101.14	103.28	106.15	109.07	110.65	116.19
33	Net domestic product	100.00	101.37	102.76	104.64	106.72	108.74	111.57
34	Domestic uses	100.00	100.74	102.60	105.09	107.11	108.32	112.77

1) Taxes on production and imports less subsidies. – 2) Received by general government. – 3) Paid by general government. –
4) Implicit deflators: data at current prices calculated as index 2015 = 100 divided by price-adjusted data (chain-linked index 2015 = 100).

Table 3
Gross value added at current prices
EUR bn.

ser.no.	WZ 2008	Industry	2016	2017	2018	2019	2020	2021
1	A	**Agriculture, forestry and fishing**	21.894	27.828	23.191	26.946	25.624	30.641
2	01	Agriculture	18.068	24.100	19.291	24.470	23.112	...
3	02	Forestry	3.575	3.531	3.709	2.364	2.368	...
4	03	Fishing	0.251	0.197	0.191	0.112	0.144	...
5	B bis F	**Industry**	864.201	897.238	918.979	936.191	906.563	962.982
6	B bis E	Industry, excluding construction	731.653	759.244	770.935	781.868	739.234	783.180
7	B	Mining and quarring	4.026	4.262	4.351	4.568	4.405	7.008
8	C	Manufacturing	647.696	666.185	674.397	679.253	636.977	679.112
9	CA	M. o. food products, beverages and tobacco	45.874	46.309	47.013	47.845	50.970	...
10	CB	M. o. textiles, wearing apparel and leather products	7.465	7.667	7.551	7.483	6.803	...
11	CC	M. o. wood and paper products and printing	25.447	25.112	25.257	26.353	27.364	...
12	16	M. o. products of wood, of plaiting materials, of straw and cork (ex. furniture)	6.873	6.858	6.947	7.861	9.156	...
13	17	M. o. paper and paper products	11.063	11.015	11.777	11.952	11.393	...
14	18	Printing and reproduction of recorded media	7.511	7.239	6.533	6.540	6.815	...
15	CD	M. o. coke and refined petroleum products	5.424	5.459	4.954	5.495	2.019	...
16	CE	M. o. chemical products	47.542	49.473	46.368	46.549	49.386	...
17	CF	M. o. pharmaceutical products	25.434	22.123	24.405	26.450	25.054	...
18	CG	M. o. rubber and plastic products and other non-metallic mineral products	47.505	47.144	48.828	49.796	48.917	...
19	22	M. o. rubber and plastic products	29.816	29.588	30.360	30.784	29.735	...
20	23	M. o. other non-metallic mineral products	17.689	17.556	18.468	19.012	19.182	...
21	CH	M. o. basic metals and fabricated metal products	76.275	77.008	81.240	78.635	71.393	...
22	24	M. o. basic metals	20.601	20.748	23.050	20.815	17.990	...
23	25	M. o. fabricated metal products	55.674	56.260	58.190	57.820	53.403	...
24	CI	M. o. computer, electronic and optical products	40.320	40.466	43.365	44.353	42.344	...
25	CJ	M. o. electrical equipment	42.942	44.513	45.709	44.021	43.055	...
26	CK	M. o. machinery and equipment n.e.c.	96.427	103.120	106.289	105.174	93.993	...
27	CL	M. o. transport equipment	146.950	156.099	152.965	153.386	131.938	...
28	29	M. o. motor vehicles, trailers and semi-trailers	132.551	138.378	137.823	136.614	118.601	...
29	30	M. o. other transport equipment	14.399	17.721	15.142	16.772	13.337	...
30	CM	M. o. furniture, other manufacturing; repair of machinery and equipment	40.091	41.692	40.453	43.713	43.741	...
31	31-32	M. o. furniture, other manufacturing	23.977	26.368	25.438	26.731	26.936	...
32	33	Repair and installation of machinery and equipment	16.114	15.324	15.015	16.982	16.805	...
33	D	Electricity, gas, steam, and air conditioning supply	50.136	57.489	59.135	63.672	63.340	64.002
34	E	Water supply, sewerage, waste management and remediation activities	29.795	31.308	33.052	34.375	34.512	33.058
35	36	Water collection, treatment and supply	5.814	5.608	5.814	5.864	5.861	...
36	37-39	Sewerage, waste management and remediation activities	23.981	25.700	27.238	28.511	28.651	...
37	F	Construction	132.548	137.994	148.044	154.323	167.329	179.802
38	G bis T	**Services**	1,936.348	2,019.008	2,090.566	2,166.580	2,155.776	2,264.944
39	G bis I	Trade, transport, accommodation and food services	447.235	469.106	483.104	501.707	479.023	516.822
40	G	Wholesale and retail trade; repair of motor vehicles and motorcycles	279.317	294.929	302.092	312.130	320.367	338.586
41	45	Wholesale and retail trade and repair of motor vehicles and motorcycles	47.959	47.999	48.058	52.513	49.941	...
42	46	Wholesale trade, except of motor vehicles and motorcycles	133.792	143.896	149.651	156.028	155.428	...
43	47	Retail trade, except of motor vehicles and motorcycles	97.566	103.034	104.383	103.589	114.998	...
44	H	Transportation and storage	123.838	128.259	132.526	139.062	127.526	146.598
45	49	Land transport and transport via pipelines	47.797	48.524	50.525	53.059	46.404	...
46	50	Water transport	4.299	6.366	6.074	6.300	4.704	...
47	51	Air transport	8.323	8.116	7.338	6.654	4.171	...
48	52	Warehousing and support activities for transportation	47.289	48.576	52.009	55.149	52.059	...
49	53	Postal and courier activities	16.130	16.677	16.580	17.900	20.188	...
50	I	Accommodation and food services	44.080	45.918	48.486	50.515	31.130	31.638

Table 3
Gross value added at current prices
EUR bn.

ser.no.	WZ 2008	Industry	2016	2017	2018	2019	2020	2021
51	J	Information and communication	129.842	135.518	145.871	152.497	154.671	163.805
52	JA	Publishing, audiovisual and broadcasting activities	30.478	30.564	30.692	31.426	28.951	...
53	58	Publishing activities	14.283	14.579	14.659	14.588	14.098	...
54	59-60	Audiovisual and broadcasting activities	16.195	15.985	16.033	16.838	14.853	...
55	JB	Telecommunications	25.234	26.378	26.630	27.746	29.438	...
56	JC	Computer programming, information service activities	74.130	78.576	88.549	93.325	96.282	...
57	K	Financial and insurance services	118.113	118.422	118.488	121.899	123.517	123.162
58	64	Financial service activities, ex. insurance and pension funding	74.972	72.703	69.555	70.861	73.333	...
59	65	Insurance, reinsurance and pension funding, ex. compulsory social security	26.734	28.186	30.196	30.459	29.092	...
60	66	Activities auxiliary to financial services and insurance activities	16.407	17.533	18.737	20.579	21.092	...
61	L	Real estate activities	305.682	313.185	319.338	327.201	332.634	341.957
62	M bis N	Business services	316.879	336.821	353.827	359.635	350.098	376.410
63	M	Professional, scientific and technical activities	176.412	189.038	196.304	197.536	200.803	216.615
64	MA	Professional and technical activities	124.370	138.051	143.649	143.555	147.138	...
65	69-70	Legal and accounting activities, management consultancy activities	83.601	93.327	99.456	99.564	101.064	...
66	71	Architectural and engineering activities, technical testing and analysis	40.769	44.724	44.193	43.991	46.074	...
67	MB	Scientific research and development	22.940	23.786	24.699	26.460	26.577	...
68	MC	Other professional, scientific and technical activities	29.102	27.201	27.956	27.521	27.088	...
69	73	Advertising and market research	12.935	13.055	12.469	13.520	12.001	...
70	74-75	Professional, scientific and technical activities n.e.c., veterinary activities	16.167	14.146	15.487	14.001	15.087	...
71	N	Other business services	140.467	147.783	157.523	162.099	149.295	159.795
72	77	Rental and leasing activities	45.700	47.081	49.059	51.380	50.612	...
73	78	Employment activities	28.711	30.671	30.049	31.267	26.794	...
74	79	Travel agency, tour operator reservation sercive and related activities	6.233	6.791	7.731	5.963	1.765	...
75	80-82	Business services n.e.c.	59.823	63.240	70.684	73.489	70.124	...
76	O bis Q	Public services, education, health	510.204	533.999	554.503	583.328	604.572	628.421
77	O	Public administration and defence; compulsory social security	170.548	177.980	185.629	195.154	203.987	212.680
78	P	Education	128.044	132.867	138.547	145.573	147.883	153.413
79	Q	Human health and social work activities	211.612	223.152	230.327	242.601	252.702	262.328
80	QA	Human health activities	150.460	157.032	162.170	170.752	177.148	...
81	QB	Social work activities	61.152	66.120	68.157	71.849	75.554	...
82	R bis T	Other services	108.393	111.957	115.435	120.313	111.261	114.367
83	R	Arts, entertainment and recreation	37.702	39.487	40.746	42.623	34.570	35.369
	90-92	Creative, arts and entertainment activities, gambling and betting activities	21.380	22.210	22.619	23.318	19.173	...
85	93	Sports activities and amusement and recreation activities	16.322	17.277	18.127	19.305	15.397	...
86	S	Other services n.e.c.	63.682	65.324	67.312	70.079	69.191	71.273
87	94	Activities of membership organisations	28.944	30.104	31.375	33.027	34.047	...
88	95	Repair of computers and personal and household goods	1.702	1.736	1.693	1.814	1.768	...
89	96	Other personal service activities	33.036	33.484	34.244	35.238	33.376	...
90	T	Private households	7.009	7.146	7.377	7.611	7.500	7.725
91	A bis T	**All industries**	2,822.443	2,944.074	3,032.736	3,129.717	3,087.963	3,258.567
92		+ Taxes on products	319.143	329.847	339.600	350.942	325.939	365.008
93		− Subsidies on products	6.846	6.761	6.886	7.399	8.472	21.825
94		= Gross domestic product	3,134.740	3,267.160	3,365.450	3,473.260	3,405.430	3,601.750

Table 4
Use of gross domestic product

	Specification	2015	2016	2017	2018	2019	2020	2021
		At current prices						
		EUR bn.						
1	Consumption	2,198.877	2,277.567	2,350.684	2,422.537	2,508.619	2,461.515	2,571.338
	Final consumption expenditure:							
2	Households	1,559.417	1,608.214	1,654.556	1,703.415	1,754.046	1,659.615	1,718.131
3	Non-profit institutions serving households (NPISHs)	43.552	45.502	47.909	49.975	51.417	53.902	55.711
4	General Government	595.908	623.851	648.219	669.147	703.156	747.998	797.496
	Actual final consumption:							
5	Actual individual consumption	1,986.392	2,058.391	2,121.475	2,183.906	2,256.364	2,185.411	2,283.534
6	Actual collective consumption	212.485	219.176	229.209	238.631	252.255	276.104	287.804
7	+ Gross capital formation	597.457	625.927	684.871	737.693	768.304	752.259	838.859
8	Gross fixed capital formation	605.836	636.299	666.876	708.939	742.361	736.147	783.804
9	Construction	291.243	307.923	321.721	345.489	363.473	384.789	416.700
10	Machinery and equipment 1)	206.943	214.122	224.440	235.527	241.229	217.525	229.414
11	Other products 2)	107.650	114.254	120.715	127.923	137.659	133.833	137.690
12	Changes in inventories and acquisitions less disposals of valuables	-8.379	-10.372	17.995	28.754	25.943	16.112	55.055
13	= Domestic uses	2,796.334	2,903.494	3,035.555	3,160.230	3,276.923	3,213.774	3,410.197
14	+ Balance of exports and imports	229.846	231.246	231.605	205.220	196.337	191.656	191.553
15	Exports	1,419.906	1,444.277	1,540.892	1,592.156	1,620.957	1,464.782	1,693.923
16	less: Imports	1,190.060	1,213.031	1,309.287	1,386.936	1,424.620	1,273.126	1,502.370
17	= Gross domestic product	3,026.180	3,134.740	3,267.160	3,365.450	3,473.260	3,405.430	3,601.750
		Price-adjusted						
		Chain-linked index (2015 = 100)						
18	Consumption	100.00	102.88	104.40	105.77	107.77	104.59	106.10
	Final consumption expenditure:							
19	Households	100.00	102.44	103.84	105.37	107.11	100.92	101.23
20	Non-profit institutions serving households (NPISHs)	100.00	102.70	105.83	108.22	109.11	107.61	111.53
21	General Government	100.00	104.04	105.77	106.62	109.39	113.75	118.07
	Actual final consumption:							
22	Actual individual consumption	100.00	102.89	104.26	105.55	107.31	102.94	104.49
23	Actual collective consumption	100.00	102.73	105.75	107.80	112.12	120.05	121.13
24	Gross capital formation	100.00	103.78	110.92	114.04	115.46	111.67	115.58
25	Gross fixed capital formation	100.00	103.81	106.53	110.10	112.21	109.68	111.02
26	Construction	100.00	103.83	104.87	107.57	108.61	112.87	112.87
27	Machinery and equipment 1)	100.00	103.04	107.34	112.04	113.19	100.78	104.29
28	Other products 2)	100.00	105.21	109.52	113.37	120.32	116.34	117.56
29	Changes in inventories and acquisitions less disposals of valuables	x	x	x	x	x	x	x
30	Domestic uses	100.00	103.07	105.80	107.54	109.41	106.10	108.14
31	Balance of exports and imports	x	x	x	x	x	x	x
32	Exports	100.00	102.47	107.49	109.88	111.27	100.95	110.75
33	less: Imports	100.00	104.49	109.95	114.34	117.61	107.61	117.29
34	Gross domestic product	100.00	102.23	104.97	106.00	107.12	103.16	105.87
		Implicit deflators 3)						
		Index (2015 = 100)						
35	Consumption	100.00	100.68	102.39	104.16	105.86	107.03	110.22
	Final consumption expenditure:							
36	Households	100.00	100.67	102.18	103.66	105.01	105.46	108.84
37	Non-profit institutions serving households (NPISHs)	100.00	101.73	103.94	106.03	108.20	115.01	114.70
38	General Government	100.00	100.62	102.85	105.32	107.87	110.35	113.35
	Actual final consumption:							
39	Actual individual consumption	100.00	100.71	102.44	104.16	105.85	106.88	110.02
40	Actual collective consumption	100.00	100.41	102.00	104.17	105.89	108.24	111.82
41	Gross capital formation	100.00	100.95	103.34	108.27	111.38	112.75	121.47
	including:							
42	Gross fixed capital formation	100.00	101.18	103.33	106.29	109.20	110.79	116.54
43	Construction	100.00	101.83	105.33	110.28	114.91	117.06	126.77
44	Machinery and equipment 1)	100.00	102.30	105.42	109.97	114.66	116.77	126.68
45	Other products 2)	100.00	100.87	102.39	104.82	106.28	106.86	108.80
46	Domestic uses	100.00	100.74	102.60	105.09	107.11	108.32	112.77
47	Terms of Trade 4)	100.00	101.76	100.90	100.13	100.80	102.80	100.08
48	Exports	100.00	99.27	100.96	102.05	102.60	102.19	107.72
49	Imports	100.00	97.55	100.06	101.92	101.79	99.41	107.63
50	Gross domestic product	100.00	101.33	102.85	104.92	107.14	109.08	112.42

1) Including weapon systems. – 2) Intellectual property products and cultivated biological resources. – 3) Implicit deflators: data at current prices calculated as index 2015 = 100 divided by price-adjusted data (chain-linked index 2015 = 100).
4) Export deflator in relation to import deflator.

Table 5
Population, employment and total hours worked

	Specification	2015	2016	2017	2018	2019	2020	2021
	Average in 1000							
1	Population 1)	81,687	82,349	82,657	82,906	83,093	83,161	83,196
2	– Inactive population	36,842	37,141	37,017	36,812	36,680	36,789	36,794
3	= Economically active population	44,845	45,208	45,640	46,094	46,413	46,372	46,402
4	– Unemployed persons 2)	1,808	1,649	1,509	1,367	1,280	1,551	1,536
5	= Persons in employment (national concept)	43,037	43,559	44,131	44,727	45,133	44,821	44,866
6	– Self-employed 3)	4,405	4,341	4,273	4,225	4,160	4,056	3,958
7	= Employees (national concept)	38,632	39,218	39,858	40,502	40,973	40,765	40,908
8	+ Commuter balance	85	102	120	139	144	94	114
9	= Employees (domestic concept)	38,717	39,320	39,978	40,641	41,117	40,859	41,022
10	incl.: marginal employees 4)	5,500	5,428	5,363	5,288	5,202	4,853	4,694
11	+ Self-employed 3)	4,405	4,341	4,273	4,225	4,160	4,056	3,958
12	= Persons in employment (domestic concept)	43,122	43,661	44,251	44,866	45,277	44,915	44,980
	Mill. hours							
	Hours worked							
13	by persons in employment	60,412	60,933	61,471	61,945	62,127	59,249	60,281
14	by employees	51,754	52,451	53,219	53,876	54,259	52,128	53,141
	Key data for total economy							
15	Economic growth (GDP price-adjusted, chain-linked) 5)	1.5	2.2	2.7	1.0	1.1	– 3.7	2.6
16	Employment ratio (economically active population as % of population)	54.9	54.9	55.2	55.6	55.9	55.8	55.8
17	Unemployment ratio (unemployed persons as % of economically active population)	4.0	3.6	3.3	3.0	2.8	3.3	3.3
18	Gross domestic product at current prices per person in employment in EUR	70,177	71,797	73,832	75,011	76,711	75,819	80,074
19	Gross domestic product at current prices per hour worked by persons in employment in EUR	50.09	51.45	53.15	54.33	55.91	57.48	59.75
20	Labour productivity per person in employment (gross domestic product price-adjusted, chain-linked per person in employment) 5)	0.6	1.0	1.3	– 0.4	0.1	– 2.9	2.5
21	Labour productivity per hour worked by persons in employment (GDP price-adjusted, chain-linked per hour worked by persons in employment) 5)	0.5	1.4	1.8	0.2	0.8	1.0	0.9
22	Compensation of employees per employee in EUR per month	3,362	3,439	3,529	3,632	3,756	3,771	3,888
23	Compensation of employees per hour worked by employees in EUR	30.18	30.94	31.81	32.88	34.16	35.47	36.01
24	Unit labour costs (per capita) (compensation of employees per employee in relation to productivity per person in employment) 5)	2.2	1.3	1.3	3.3	3.3	3.4	0.6
25	Unit labour costs per hour (compensation of employees per hour worked by employees in rel. to productivity per hour worked by persons in employment) 5)	2.0	1.1	1.0	3.1	3.1	2.8	0.7
26	Wages and salaries per employee in EUR per month	2,761	2,829	2,902	2,994	3,084	3,080	3,182
27	Wages and salaries per employee in EUR per month (without marginal employees) 4)	3,164	3,229	3,300	3,391	3,481	3,451	3,550
28	Wages and salaries per hour worked by employees in EUR	24.78	25.45	26.16	27.10	28.04	28.97	29.48
29	Wage ratio, unadjusted (compensation of employees as % of net national income (factor costs))	69.5	69.3	69.4	69.9	71.2	72.1	69.9
30	Wage ratio, adjusted 6)	70.3	69.9	69.8	70.1	71.2	72.0	69.7
31	Ratio of earned income (compensation of employees as % of net national income at factor costs per person in employment)	77.4	77.0	76.8	77.2	78.4	79.3	76.7

1) From 2011 onwards results of current population statistic, before that back calculations based on the 2011 census. 2) Results of the labour force survey; persons in households aged between 15 and 74 years. – 3) Including family workers. –4) Marginally employed employees refer to persons who, as wage earners or salaried employees, do not perform any job subject to full social insurance contributions but who are considered as persons in employment according to the ILO standards if they worked for renumeration for at least one hour in the one-week reference period. In Germany this includes especially those persons who exclusively pursue marginal jobs or who are employed in job opportunities ("one-euro job") – 5) Change on the previous year in %. – 6) Ratio of earned income multiplied by the ratio of employees (employees in relation to persons in employment) in a constant base year (here 1991).

Table 6
Revenue and expenditure as well as net lending/net borrowing by general government

Year	Revenue				Expenditure						net lending/net borrowing
	total	including: levies			total	including					
		total	taxes	net social contri-butions		intermediate consumption	compen-sation of employees	social benefits other than social transfers in kind	social benefits in kind	gross capital formation	
	1	2	3	4	5	6	7	8	9	10	11
	EUR bn.										
2005	995,446	887,294	486,060	401,234	1.071,405	93,156	184,466	412,643	169,450	44,968	-75,959
2006	1.039,469	928,860	523,526	405,334	1.078,898	97,598	185,371	409,284	173,657	48,578	-39,429
2007	1.091,269	974,894	570,261	404,633	1.084,748	101,929	186,281	402,287	180,106	47,957	6,521
2008	1.122,573	1.001,243	588,690	412,553	1.125,536	109,396	191,194	405,356	187,410	53,558	-2,963
2009	1.101,797	973,011	557,452	415,559	1.178,850	117,446	200,150	426,776	198,436	58,879	-77,053
2010	1.122,258	985,911	559,439	426,472	1.234,544	124,897	205,811	430,497	204,363	59,866	-112,286
2011	1.194,783	1.044,569	601,949	442,620	1.218,524	131,804	211,021	424,289	209,783	61,262	-23,741
2012	1.233,394	1.082,381	627,797	454,584	1.233,138	135,719	214,746	430,433	215,174	60,375	0,256
2013	1.264,668	1.111,671	646,304	465,367	1.263,544	141,819	220,474	438,925	227,687	60,993	1,124
2014	1.313,906	1.149,905	667,562	482,343	1.296,940	147,106	227,508	451,507	239,752	60,528	16,966
2015	1.364,857	1.199,969	698,804	501,165	1.335,789	152,984	232,991	469,662	252,202	64,512	29,068
2016	1.426,748	1.256,473	732,183	524,290	1.390,374	162,512	240,702	486,859	267,676	68,118	36,374
2017	1.486,925	1.316,652	767,171	549,481	1.443,273	169,547	250,586	506,893	277,930	71,558	43,652
2018	1.557,224	1.373,845	801,253	572,592	1.491,601	176,417	260,284	521,488	284,062	78,498	65,623
2019	1.615,820	1.425,477	827,281	598,196	1.562,647	187,246	273,209	548,693	296,903	84,410	53,173
2020	1.569,061	1.382,579	774,482	608,097	1.716,615	209,396	284,254	599,982	304,861	93,220	-147,554
2021	1.711,747	1.511,471	877,781	633,690	1.845,999	227,167	294,422	610,940	329,993	93,368	-134,252
	Change on the previous year										
					in %						in EUR bn.
2005	*1,2*	*1,4*	*2,6*	*– 0,1*	*1,2*	*4,1*	*0,0*	*0,4*	*2,4*	*4,7*	– 0,523
2006	*4,4*	*4,7*	*7,7*	*1,0*	*0,7*	*4,8*	*0,5*	*– 0,8*	*2,5*	*8,0*	36,530
2007	*5,0*	*5,0*	*8,9*	*– 0,2*	*0,5*	*4,4*	*0,5*	*– 1,7*	*3,7*	*– 1,3*	45,950
2008	*2,9*	*2,7*	*3,2*	*2,0*	*3,8*	*7,3*	*2,6*	*0,8*	*4,1*	*11,7*	– 9,484
2009	*– 1,9*	*– 2,8*	*– 5,3*	*0,7*	*4,7*	*7,4*	*4,7*	*5,3*	*5,9*	*9,9*	– 74,090
2010	*1,9*	*1,3*	*0,4*	*2,6*	*4,7*	*6,3*	*2,8*	*0,9*	*3,0*	*1,7*	– 35,233
2011	*6,5*	*5,9*	*7,6*	*3,8*	*– 1,3*	*5,5*	*2,5*	*– 1,4*	*2,7*	*2,3*	88,545
2012	*3,2*	*3,6*	*4,3*	*2,7*	*1,2*	*3,0*	*1,8*	*1,4*	*2,6*	*– 1,4*	23,997
2013	*2,5*	*2,7*	*2,9*	*2,4*	*2,5*	*4,5*	*2,7*	*2,0*	*5,8*	*1,0*	0,868
2014	*3,9*	*3,4*	*3,3*	*3,6*	*2,6*	*3,7*	*3,2*	*2,9*	*5,3*	*– 0,8*	15,842
2015	*3,9*	*4,4*	*4,7*	*3,9*	*3,0*	*4,0*	*2,4*	*4,0*	*5,2*	*6,6*	12,102
2016	*4,5*	*4,7*	*4,8*	*4,6*	*4,1*	*6,2*	*3,3*	*3,7*	*6,1*	*5,6*	7,306
2017	*4,2*	*4,8*	*4,8*	*4,8*	*3,8*	*4,3*	*4,1*	*4,1*	*3,8*	*5,1*	7,278
2018	*4,7*	*4,3*	*4,4*	*4,2*	*3,3*	*4,1*	*3,9*	*2,9*	*2,2*	*9,7*	21,971
2019	*3,8*	*3,8*	*3,2*	*4,5*	*4,8*	*6,1*	*5,0*	*5,2*	*4,5*	*7,5*	– 12,450
2020	*– 2,9*	*– 3,0*	*– 6,4*	*1,7*	*9,9*	*11,8*	*4,0*	*9,3*	*2,7*	*10,4*	– 200,727
2021	*9,1*	*9,3*	*13,3*	*4,2*	*7,5*	*8,5*	*3,6*	*1,8*	*8,2*	*0,2*	13,302
	in % of GDP										
2005	*43,5*	*38,8*	*21,2*	*17,5*	*46,8*	*4,1*	*8,1*	*18,0*	*7,4*	*2,0*	*– 3,3*
2006	*43,6*	*38,9*	*22,0*	*17,0*	*45,2*	*4,1*	*7,8*	*17,2*	*7,3*	*2,0*	*– 1,7*
2007	*43,7*	*39,0*	*22,8*	*16,2*	*43,4*	*4,1*	*7,5*	*16,1*	*7,2*	*1,9*	*0,3*
2008	*44,1*	*39,3*	*23,1*	*16,2*	*44,2*	*4,3*	*7,5*	*15,9*	*7,4*	*2,1*	*– 0,1*
2009	*45,0*	*39,8*	*22,8*	*17,0*	*48,2*	*4,8*	*8,2*	*17,4*	*8,1*	*2,4*	*– 3,2*
2010	*43,8*	*38,4*	*21,8*	*16,6*	*48,1*	*4,9*	*8,0*	*16,8*	*8,0*	*2,3*	*– 4,4*
2011	*44,4*	*38,8*	*22,3*	*16,4*	*45,2*	*4,9*	*7,8*	*15,8*	*7,8*	*2,3*	*– 0,9*
2012	*44,9*	*39,4*	*22,9*	*16,6*	*44,9*	*4,9*	*7,8*	*15,7*	*7,8*	*2,2*	*0,0*
2013	*45,0*	*39,5*	*23,0*	*16,6*	*44,9*	*5,0*	*7,8*	*15,6*	*8,1*	*2,2*	*0,0*
2014	*44,9*	*39,3*	*22,8*	*16,5*	*44,3*	*5,0*	*7,8*	*15,4*	*8,2*	*2,1*	*0,6*
2015	*45,1*	*39,7*	*23,1*	*16,6*	*44,1*	*5,1*	*7,7*	*15,5*	*8,3*	*2,1*	*1,0*
2016	*45,5*	*40,1*	*23,4*	*16,7*	*44,4*	*5,2*	*7,7*	*15,5*	*8,5*	*2,2*	*1,2*
2017	*45,5*	*40,3*	*23,5*	*16,8*	*44,2*	*5,2*	*7,7*	*15,5*	*8,5*	*2,2*	*1,3*
2018	*46,3*	*40,8*	*23,8*	*17,0*	*44,3*	*5,2*	*7,7*	*15,5*	*8,4*	*2,3*	*1,9*
2019	*46,5*	*41,0*	*23,8*	*17,2*	*45,0*	*5,4*	*7,9*	*15,8*	*8,5*	*2,4*	*1,5*
2020	*46,1*	*40,6*	*22,7*	*17,9*	*50,4*	*6,1*	*8,3*	*17,6*	*9,0*	*2,7*	*– 4,3*
2021	*47,5*	*42,0*	*24,4*	*17,6*	*51,3*	*6,3*	*8,2*	*17,0*	*9,2*	*2,6*	*– 3,7*

Table 7

National account
2021
EUR bn.

Account		Transactions and aggregates, resources and uses, balancing items	Total economy	Non financial	Financial	General government	Households and non-profit inst. serving households	Rest of the world
				Corporations				
			S.1	S.11	S.12	S.13	S.14 / S.15	S.2
Resources	Uses							
0 Goods and services account								
P.1		Output	6,745.920	–	–	–	–	–
D.21		Taxes on products	365.008	–	–	–	–	–
P.7		Imports of goods and services	1,502.370	–	–	–	–	–
	P.2	Intermediate consumption	3,487.353	–	–	–	–	–
	D.31	Subsidies on products	21.825	–	–	–	–	–
	P.3	Final consumption expenditure	2,571.338	–	–	–	–	–
	P.5g	Gross capital formation	838.859	–	–	–	–	–
	P.6	Exports of goods and services	1,693.923	–	–	–	–	–
Uses	Resources							
I Production account								
	P.1	Output	6,745.920	4,817.717	276.102	602.075	1,050.026	–
		including: FISIM 1)	73.538	–	73.538	–	–	–
P.2		Intermediate consumption	3,487.353	2,722.215	156.585	227.167	381.386	–
		including: FISIM 1)	50.778	20.835	1.811	1.744	26.388	–
B.1g		**Gross value added**	3,258.567	2,095.502	119.517	374.908	668.640	-191.553
P.51c		Consumption of fixed capital	704.931	393.242	13.979	87.829	209.881	–
B.1n		**Net value added 2)**	2,553.636	1,702.260	105.538	287.079	458.759	-191.553
II.1.1 Generation of income account								
	B.1n	**Net value added**	2,553.636	1,702.260	105.538	287.079	458.759	-191.553
	D.39	Other subsidies on production	94.507	71.890	0.061	0.141	22.415	–
D.1		Compensation of employees	1,913.709	1,305.995	75.158	294.422	238.134	17.040
D.29		Other taxes on production	35.270	20.371	4.696	0.460	9.743	–
B.2/3n		**Operating surplus, net/mixed income, net**	699.164	447.784	25.745	-7.662	233.297	-208.593
II.1.2 Allocation of primary income account								
	B.2/3n	**Operating surplus, net/mixed income, net**	699.164	447.784	25.745	-7.662	233.297	-208.593
	D.1	Compensation of employees	1,918.027	–	–	–	1,918.027	12.722
	D.2	Taxes on production and imports, receivable	392.757	–	–	392.757	–	7.521
	D.21	Taxes on products	359.977	–	–	359.977	–	5.031
	D.211	Value added type taxes (VAT)	259.385	–	–	259.385	–	–
	D.212	Taxes and duties on imports excl. VAT	26.313	–	–	26.313	–	5.031
	D.214	Taxes on products excl. VAT and import taxes	74.279	–	–	74.279	–	–
	D.29	Other taxes on production	32.780	–	–	32.780	–	2.490
	D.4	Property income	729.248	161.149	221.685	15.181	331.233	86.635
	D.41	Interest 3)	175.224	27.966	117.227	6.411	23.620	33.219
		memorandum item: total interest before FISIM allocation	202.842	20.967	167.508	5.021	9.346	33.159
	D.42	Distributed income of corporations	376.836	87.389	48.031	6.315	235.101	41.281
	D.43	Reinvested earnings on foreign direct investment	55.474	40.917	14.557	0.000	0.000	4.788
	D.44	Other investment income	117.046	4.863	41.870	1.065	69.248	7.347
	D.45	Rents	4.668	0.014	–	1.390	3.264	–
D.3		Subsidies, payable	111.604	–	–	111.604	–	4.728
D.31		Subsidies on products	21.823	–	–	21.823	–	0.002
D.39		Other subsidies on production	89.781	–	–	89.781	–	4.726
D.4		Property income	603.025	335.792	228.968	20.785	17.480	212.858
D.41		Interest 3)	149.712	22.504	91.299	20.785	15.124	58.731
		memorandum item: total interest before FISIM allocation	173.682	36.340	69.853	21.139	46.350	62.319
D.42		Distributed income of corporations	329.298	306.408	22.890	–	–	88.819
D.43		Reinvested earnings on foreign direct investment	4.788	4.568	0.220	–	–	55.474
D.44		Other investment income	114.559	0.000	114.559	–	–	9.834
D.45		Rents	4.668	2.312	–	–	2.356	–
B.5n		**Primary income**	3,024.567	273.141	18.462	267.887	2,465.077	-319.301

1) Financial intermediation services indirectly measured. – 2) Concerning rest of the world: imports minus exports of goods and services to/from rest of the world. – 3) Interest after FISIM adjustment.

Table 7
National account
2021
EUR bn.

Account		Transactions and aggregates, resources and uses, balancing items	Total economy	Non financial	Financial	General government	Households and non-profit inst. serving households	Rest of the world
				Corporations				
Uses	Resources		S.1	S.11	S.12	S.13	S.14 / S.15	S.2
II.1.2.1 Entrepreneurial income account								
	B.2n	**Operating surplus, net**	505.981	447.784	25.745	-7.662	40.114	-208.593
	B.3n	**Mixed income, net**	193.183	–	–	–	193.183	–
	D.4	Property income	384.848	161.149	221.685	–	2.014	4.788
	D.41	Interest 3)	147.207	27.966	117.227	–	2.014	–
		memorandum item: total interest before FISIM allocation	188.468	20.967	167.508	–	-0.007	–
	D.42	Distributed income of corporations	135.420	87.389	48.031	–	–	–
	D.43	Reinvested earnings on foreign direct investment	55.474	40.917	14.557	–	–	4.788
	D.44	Other investment income	46.733	4.863	41.870	–	–	–
	D.45	Rents	0.014	0.014	–	–	–	–
D.4		Property income	245.062	24.816	205.858	–	14.388	–
D.41		Interest 3)	125.835	22.504	91.299	–	12.032	–
		memorandum item: total interest before FISIM allocation	141.921	36.340	69.853	–	35.728	–
D.44		Other investment income	114.559	–	114.559	–	–	–
D.45		Rents	4.668	2.312	–	–	2.356	–
B.4n		**Entrepreneurial income**	838.950	584.117	41.572	-7.662	220.923	-203.805
II.1.2.2 Allocation of other primary income account								
	B.4n	**Entrepreneurial income**	838.950	584.117	41.572	-7.662	220.923	-203.805
	D.1	Compensation of employees	1,918.027	–	–	–	1,918.027	12.722
	D.2	Taxes on production and imports, receivable	392.757	–	–	392.757	–	7.521
	D.4	Property income	344.400	–	–	15.181	329.219	81.847
	D.41	Interest 3)	28.017	–	–	6.411	21.606	33.219
		memorandum item: total interest before FISIM allocation	14.374	–	–	5.021	9.353	33.159
	D.42	Distributed income of corporations	241.416	–	–	6.315	235.101	41.281
	D.44	Other investment income	70.313	–	–	1.065	69.248	7.347
	D.45	Rents	4.654	–	–	1.390	3.264	–
D.3		Subsidies, payable	111.604	–	–	111.604	–	4.728
D.4		Property income	357.963	310.976	23.110	20.785	3.092	212.858
D.41		Interest 3)	23.877	–	–	20.785	3.092	58.731
		memorandum item: total interest before FISIM allocation	31.761	–	–	21.139	10.622	62.319
D.42		Distributed income of corporations	329.298	306.408	22.890	–	–	88.819
D.43		Reinvested earnings on foreign direct investment	4.788	4.568	0.220	–	–	55.474
D.44		Other investment income	–	–	–	–	–	9.834
D.45		Rents	–	–	–	–	–	–
B.5n		**Primary income**	3,024.567	273.141	18.462	267.887	2,465.077	-319.301

3) Interest after FISIM adjustment

Table 7
National account
2021
EUR bn.

Account		Transactions and aggregates, resources and uses, balancing items	Total economy	Non financial	Financial	General government	Households and non-profit inst. serving households	Rest of the world
				Corporations				
Uses	Resources		S.1	S.11	S.12	S.13	S.14 / S.15	S.2
II.2 Secondary distribution of income account								
	B.5n	**Primary income**	3,024.567	273.141	18.462	267.887	2,465.077	-319.301
	D.5	Current taxes on income, wealth, etc.	485.024	–	–	485.024	–	0.543
	D.51	Taxes on income	469.447	–	–	469.447	–	0.543
	D.59	Other current taxes	15.577	–	–	15.577	–	–
	D.61	Net social contributions	775.434	20.976	119.893	633.690	0.875	4.126
	D.611	Employers' actual social constributions	302.081	19.306	27.652	255.123	–	2.292
	D.612	Employers' imputed social contributions	45.266	1.670	0.558	42.163	0.875	–
	D.613	Households' actual social contributions	401.905	–	65.501	336.404	–	1.834
	D.614	Households' social contribution supplements	33.799	–	33.799	–	–	–
	D.61SC	Social insurance scheme service charges	7.617	–	7.617	–	–	–
	D.62	Social benefits other than social transfers in kind	676.488	–	–	–	676.488	8.388
	D.621	Social security benefits in cash	419.805	–	–	–	419.805	7.980
	D.622	Other social insurance benefits	156.327	–	–	–	156.327	0.229
	D.623	Social assistance benefits in cash	100.356	–	–	–	100.356	0.179
	D.7	Other current transfers	338.162	17.289	169.587	30.076	121.210	128.269
	D.71	Net non-life insurance premiums	139.745	–	139.745	–	–	19.453
	D.72	Non-life insurance claims	113.881	12.914	26.706	0.367	73.894	43.033
	D.73	Current transfers within general government	–	–	–	–	–	–
	D.74	Current international cooperation	5.547	–	–	5.547	–	10.738
	D.75	Miscellaneous current transfers	78.989	4.375	3.136	24.162	47.316	21.281
	D.76	VAT and GNI – based EU own resources	–	–	–	–	–	33.764
D.5		Current taxes on income, wealth, etc.	473.524	98.605	11.590	–	363.329	12.043
D.51		Taxes on income	457.947	98.605	11.590	–	347.752	12.043
D.59		Other current taxes	15.577	–	–	–	15.577	–
D.61		Net social contributions	775.317	–	–	–	775.317	4.243
D.611		Employers' actual social contributions	302.184	–	–	–	302.184	2.189
D.612		Employers' imputed social contributions	45.266	–	–	–	45.266	–
D.613		Households' actual social contributions	401.685	–	–	–	401.685	2.054
D.614		Households' social contribution supplements	33.799	–	–	–	33.799	–
D.61SC		Social insurance scheme service charges	7.617	–	–	–	7.617	–
D.62		Social benefits other than social transfers in kind	684.711	16.433	56.463	610.940	0.875	0.165
D.621		Social security benefits in cash	427.785	–	–	427.785	–	–
D.622		Other social insurance benefits	156.391	16.433	56.463	82.620	0.875	0.165
D.623		Social assistance benefits in cash	100.535	–	–	100.535	–	–
D.7		Other current transfers	394.209	40.622	170.261	90.398	92.928	72.222
D.71		Net non-life insurance premiums	116.407	15.198	26.706	0.367	74.136	42.791
D.72		Non-life insurance claims	139.745	–	139.745	–	–	17.169
D.73		Current transfers within general government	–	–	–	–	–	–
D.74		Current international cooperation	10.738	–	–	10.738	–	5.547
D.75		Miscellaneous current transfers	93.555	25.424	3.810	45.529	18.792	6.715
D.76		VAT and GNI – based EU own resources	33.764	–	–	33.764	–	–
B.6n		**Disposable income, net**	2,971.914	155.746	69.628	715.339	2,031.201	-266.648

Table 7
National account
2021
EUR bn.

Account		Transactions and aggregates, resources and uses, balancing items	Total economy	Non financial	Financial	General government	Households and non-profit inst. serving households	Rest of the world
				Corporations				
			S.1	S.11	S.12	S.13	S.14 / S.15	S.2
Uses	Resources							
II.4 Use of disposable income account								
	B.6n	**Disposable income, net**	2 971.914	155.746	69.628	715.339	2 031.201	– 266.648
	D.8	Adjustment for the change in pension entitlements	58.682	–	–	–	58.682	–
D.8		Adjustment for the change in pension entitlements	58.682	4.252	54.430	–	–	–
P.3		Final consumption expenditure	2 571.338	–	–	797.496	1 773.842	–
		including: FISIM 1)	21.579	–	–	1.744	19.835	–
P.31		Individual consumption expenditure	2 283.534	–	–	509.692	1 773.842	–
P.32		Collective consumption expenditure	287.804	–	–	287.804	–	–
B.8n		**Net saving**	400.576	151.494	15.198	– 82.157	316.041	– 266.648
Changes in assets	Changes in liabilities							
III.1.1 Changes in net worth due to saving and capital transfer account								
	B.8n	**Net saving**	400.576	151.494	15.198	– 82.157	316.041	– 266.648
	D.9r	Capital transfers	93.281	47.414	1.298	20.306	24.263	17.299
	D.91r	Capital taxes	9.776	–	–	9.776	–	–
	D.92r	Investment grants	44.678	35.109	–	3.595	5.974	8.947
	D.99r	Other capital transfers	38.827	12.305	1.298	6.935	18.289	8.352
D.9p		Capital transfers	102.150	0.974	17.222	68.074	15.880	8.430
D.91p		Capital taxes	9.776	–	–	–	9.776	–
D.92p		Investment grants	50.030	–	–	50.030	–	3.595
D.99p		Other capital transfers	42.344	0.974	17.222	18.044	6.104	4.835
B.10.1n		**Changes in net worth due to saving and capital transfers**	391.707	197.934	– 0.726	– 129.925	324.424	– 257.779
III.1.2 Acquisition of non-financial assets account								
	B.10.1n	**Changes in net worth due to saving and capital transfers**	391.707	197.934	– 0.726	– 129.925	324.424	– 257.779
	P.51c	Consumption of fixed capital	704.931	393.242	13.979	87.829	209.881	–
P.5g		Gross capital formation	838.859	475.957	16.652	93.368	252.882	–
P.51g		Gross fixed capital formation	783.804	432.400	15.078	93.641	242.685	–
P.52		Changes in inventories	50.003	43.557	1.574	– 0.273	5.145	–
P.53		Acquisitions less disposals of valuables	5.052	–	–	–	5.052	–
NP		Acquisitions less disposals of non-produced assets	– 3.194	– 5.767	3.062	– 1.212	0.723	3.194
B.9		**Net lending (+)/ Net borrowing (-)**	260.973	120.986	– 6.461	– 134.252	280.700	– 260.973

1) Financial intermediation services indirectly measured.

Important terms of National Accounts

Consumption of fixed capital
decline in value of fixed assets owned, as a result of normal wear and tear and obsolescence

Employees
persons (manual workers, non-manual workers, public servants, judges, soldiers, social service workers, trainees, interns or volunteers) who are employed or engaged in an employment relationship, i.e. who work for an employer in a dependent employment relationship and receive payment for their main job on a contractual basis (including home workers and marginal employment)

Compensation of employees
wages and salaries including employers' social contributions

Ratio of earned income
compensation of employees per employee in percent of net national income (factor costs) per person in employment

Labour productivity
price-adjusted gross domestic product (total economy) resp. price-adjusted gross value added (industry) per person in employment respectively per hour worked

Total hours worked
actual hours worked by all persons in employment resp. employees

Gross fixed capital formation in machinery and equipment
machinery and equipment (including weapons systems), operating and office equipment, vehicles and similar equipment not permanently fixed to buildings

Balance of exports and imports
balance of exports and imports of goods and services
as Germany traditionally exports more than it imports, the balance is usually positive (export surplus)

Gross fixed capital formation in construction
dwellings and other buildings and structures (building and underground) as well as buildings with fixed installations like lifts, heating, ventilation and air conditioning systems, gardening facilities and fencing

Gross fixed capital formation (GFCF)
equipment (machinery and equipment including weapon systems, transport equipment), construction (dwellings, other buildings and structures) and other products (mainly consisting of research and development, software and databases)

Gross domestic product (GDP)
value of the output generated in Germany in a specific period (quarter, year)

Gross capital formation
gross fixed capital formation (machinery and equipment, construction, other products) and changes in inventories including acquisitions less disposals of valuables

Wages and salaries
all wages and salaries, including income tax and employees' social contributions, paid to recipients (manual workers, non-manual workers, civil servants, trainees and similar groups of employees) from their employment or employment relationship

Gross national income
gross domestic product less primary income paid to the rest of the world and including primary income received by domestic economic units from the rest of the world
gross national income is primarily an income indicator.

Gross value added
difference between output and intermediate consumption for each industry; including only the value added in the production process
gross value added is measured at basic prices, i.e. excluding taxes payable on products (taxes on products), but including subsidies on products received. In the transition from gross value added (at basic prices) to gross domestic product (at market prices), net taxes on products (taxes on products less subsidies on products) must be added globally

Deficit ratio → Net lending (+) / net borrowing (–) of general government
negative net lending (+) / net borrowing (–) of general government in percent of nominal gross domestic product (positive: surplus ratio)
deficit ratio may not exceed limit of 3% following Maastricht Treaty to avoid excessive government deficits

Deflator → Price index, implicit

Inhabitants
all persons (Germans and foreigners), who have their permanent residence in the economic territory (Germany). Members of foreign missions and military forces are not included in the inhabitants

Unemployed persons
all persons, who are not employed, but who are available for work and actively searching for work (Definition by International Lab our Organization, ILO)

Unemployment ratio
unemployed persons as % of economically active population

Economically active population
unemployed persons and persons in employment (national concept)

Persons in employment
all persons, who have an activity as employees, as self-employed or family workers, aimed at economic profit, independent of the volume of this activity
depending on the question asked, the persons in employment are presented according to the national concept (residence concept) or the domestic concept (working place concept)

Exports
all sales of goods and services to economic units which have their permanent residence outside Germany

Export surplus → Balance of exports and imports

Net lending/net borrowing of general government
revenue less expenditure of government (central government, state government, local government, social security funds)
if expenditure is higher than revenue in a period, the net lending/borrowing is negative (government deficit). With a positive net lending/borrowing there is a government surplus

FISIM
financial intermediation services indirectly measured
this includes the model-based indirect compensation of the financial institutions from the lending and investment activities, which they obtain in addition to the directly generated volume of sales (e.g. account services or safe deposit fees)

Taxes on products
all taxes and similar levies payable per value or quantity unit of a traded good or service
they include non-deductible Value added tax (VAT), taxes and duties on imports excluding VAT (including duties and levies amounts for imported products) and taxes on products except VAT and import taxes (consumption taxes, entertainment taxes, insurance taxes, etc.)

Subsidies on products
all subsidies which are paid per value or quantity unit of a produced or imported good or service, for example grants for public transport, grants for agricultural and animal products

Imports
all payments of goods and services from economic units which have their permanent residence outside Germany

Domestic concept
also called working place concept, because it measures all economic services produced in an economic area, independent of who has produced them (→ gross domestic product)

National concept
also called residence concept, because it measures the economic output of all domestic economic units, independent of where it was produced (→ gross national income)

Chain linked index
temporal linking (multiplication) of sub-indices, which refer to the previous year and therefore have an annually changing weighting scheme
for presentation purposes, the chain linked index is related to a specific reference year (e.g. year 2015 = 100), but this should not be confused with the previous price base year (for fixed price calculation)

Actual final consumption
consumer goods those are available for use in households, NPISHs or general government

Final consumption expenditure
final consumption expenditure of households, NPISHs or general government for consumer goods

Household final consumption expenditure
goods and services of domestic households for consumption
in addition to actual purchases, which include, between others, payments for household services, it also includes certain imputed purchases, such as consumption by entrepreneurs and the value of owner-occupied housing

Final consumption expenditure of NPISHs
consumption by NPISHs, i.e. the value of the goods produced by them, less capital formation and sales, and, where relevant, expenditure on goods provided to households for their consumption as social transfers in kind

Government final consumption expenditure
value of goods produced by government itself, less capital formation and sales, and expenditure on goods provided to households for consumption as social transfers in kind

Unit labour costs
compensation of employees per employee or per hour worked in relation to labour productivity per person in employment or per hour worked

Wage ratio (adjusted)
ratio of earned income multiplied with the employee ratio (employees in % of persons in employment) in a fixed basic year, here 1991

Wage ratio (unadjusted)
compensation of employees in percent of net national income (factor costs)

Net wages and salaries
wages and salaries received by residents, excluding employees' income tax and social contributions

Net national income → net national income (factor costs)

Net value added
gross value added less consumption of fixed capital

Acquisitions less disposals of valuables
purchases less sales of gold bars and coins of bullion, jewellery, precious stones, art objects and antiquities for the purpose of value retention
acquisitions less disposals of valuables are published together with changes in inventories

Price adjustment
adjustment of price effects
the price adjustment is based on an annually changing price basis (previous year's price basis), i.e. the results are expressed in prices of the current previous year (e.g. results for the year 2018 in prices of 2017)

Price index, implicit
data at current prices calculated as index 2015 = 100 divided by price-adjusted data (chain linked index 2015 = 100)

Private consumption expenditure of households and NPISHs
households final consumption expenditure and final consumption expenditure of NPISHs

Taxes on production and imports
taxes on products (e.g. value added type taxes (VAT), taxes and duties on imports excluding VAT, insurance taxes) and other taxes on production (e.g. taxes on property)

Output
value of sales of goods and services produced by the owner to other economic units (domestic and foreign), excluding taxes on products, including goods produced but not yet sold and assets produced by the owner (enterprise)
The output of the so-called "non-market producers" from the sectors of government and NPISHs, whose services are not sold but provided to the general public primarily for no special compensation, is determined instead by adding the cost items (e.g. compensation of employees, intermediate consumption, consumption of fixed capital)

Productivity → labour productivity

Other products
intellectual property products (research and development, computer software and databases, entertainment, literary or artistic originals, mineral exploration and evaluation) and cultivated biological resources (cultivated assets)

Saving of households
non-consumed part of the disposable income of households (expenditure concept) excluding the adjustment for the change in pension entitlements

Saving ratio of households
saving as a percentage of the disposable income of households (including the adjustment for the change in pension entitlements)

Terms of Trade
development of export prices in relation to the development of import prices

Rest of the world
the region outside the relevant economic territory
In national accounts, this is not referred to as foreign countries, but as the "rest of the world"

Property and entrepreneurial income
together with the compensation of employees forms the net national income
the starting point for the calculation of property and entrepreneurial income is the net operating surplus, including the mixed income of all economic units, calculated as the balance in the statement of income. By adding the balance of property income received from foreign countries less the property income paid to foreign countries, you obtain the property and entrepreneurial income

Disposable income of households
income accruing to households and which they can use for consumption and saving

Net national income (factor costs)
includes compensation of employees and property and entrepreneurial income received by residents and is also called net national income at factor costs

Intermediate consumption
value of goods and services that domestic economic units procured from other (domestic and foreign) economic units and consumed in the period under review in the production process, e.g. raw materials, supplies, other intermediate products, regular repairs, transport costs, postal charges, lawyers' fees, commercial rentals, etc.

Changes in inventories
are calculated in the annual accounts on the basis of stock figures for inventories as the difference between starting and ending inventories
changes in inventories are published together with the acquisitions less disposals of valuables

Economic growth
change in price-adjusted gross domestic product

GERMAN COUNCIL
of Economic Experts

Conseil d'Analyse économique

Monitoring economic performance, quality of life and sustainability

Joint Report as requested by the
Franco-German Ministerial Council

December 2010

Conseil d'Analyse Économique
113 rue de Grenelle
75007 Paris
Tel.: 0033 1 / 4275 5300
Fax: 0033 1 / 4275 5127
E-Mail: pierre.joly@pm.gouv.fr
Internet: http://www.cae.gouv.fr

Sachverständigenrat zur Begutachtung
der gesamtwirtschaftlichen Entwicklung
Statistisches Bundesamt
65180 Wiesbaden
Tel.: 0049 611 / 75 2390 / 3640 / 4694
Fax: 0049 611 / 75 2538
E-Mail: srw@destatis.de
Internet: http://www.sachverstaendigenrat.org

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PREFACE

1. The Franco-German Ministerial Council decided on February 4, 2010 to ask the French Conseil d'Analyse Économique (CAE) and the German Council of Economic Experts (GCEE) to follow-up on the outcome of the "Commission on the Measurement of Economic Performance and Social Progress" (Stiglitz-Sen-Fitoussi Commission, or SSFC).

The CAE and GCEE have fulfilled this request by preparing a report on

„Monitoring economic performance, quality of life and sustainability".

It discusses how comprehensiveness and accuracy of an indicator set might be traded off optimally with parsimony and cost to provide a reliable basis for regular, timely and digestible reporting on three key issues regarding economic performance, quality of life and sustainability.

2. As the world is emerging from its worst economic crisis of the last six decades, there is a broad consensus among policy makers and the general public that this should be a moment of pause and sincere reflection. From the vantage point of economics and statistics, three intimately related key questions should form the focus of such considerations: First, how can we improve our monitoring of economic performance in order to allow policy makers to gauge the current state of affairs and to react timely and appropriately when crises emerge? Second, how can we broaden our perspective from its current focus on economic performance to an assessment of the quality of life more generally, in order to appreciate what really counts for human welfare? And third, how can we design warning signals that alert us whenever the current manner of organizing our lives endangers sustainability, in order to correct our course of action for the sake of our own future and that of generations to come?

The first and arguably most important conclusion of our study is that a single-indicator approach to measuring human progress is inherently insufficient. Complexity of life and the demands on statistical reporting are too diverse to allow a meaningful condensation of the current state of affairs into a single comprehensive indicator. Instead, we suggest that comprehensive statistical reporting should entail a dashboard of indicators. The dashboard we propose is meant to be a starting point for discussion. It is intended to be rich enough to facilitate a sensible discussion of the relevant facets of human welfare, but it is also not overwhelmingly extensive. Moreover, it provides a balanced representation of the three areas addressed by the key questions, economic performance, quality of life and sustainability. This approach acknowledges that monitoring material well-being is an indispensable prerequisite for sensible economic policy, that life is about more than material well-being, but that human progress in non-material aspects is quite difficult to capture, and that it is wise to take a long-term perspective by outlining the consequences of unmodified human behavior.

3. The two involved institutions prepared this report with the following division of labour: The CAE took the lead in preparing Chapter II and section 2 of Chapter IV, while the GCEE took the lead in drafting Chapter III and section 3 of Chapter IV. Sections 1, 4 and 5 of Chapter IV are a joint product. Chapter I constitutes an introduction and summary of the report.

4. The CAE would like to thank Professor Christian Saint-Etienne for having kindly agreed to be the coordinator for the French Council.

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6. All views expressed in this report as well as all remaining errors should only be attributed to the authors mentioned below.

Paris and Wiesbaden on December 6, 2010

Conseil d'Analyse Économique

Christian de Boissieu Jean-Philippe Cotis

Michel Didier Christian Saint-Etienne

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung

Peter Bofinger Wolfgang Franz

Christoph M. Schmidt Beatrice Weder di Mauro Wolfgang Wiegard

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CHAPTER I

Conceptual Foundations and Guiding Principles

1. The challenge
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Elements of economic performance and social progress
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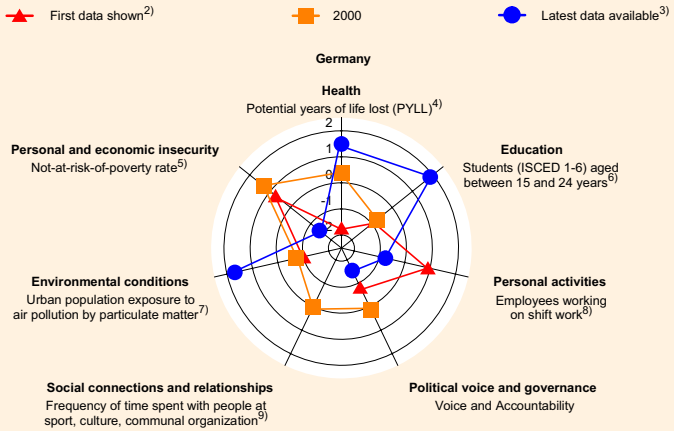
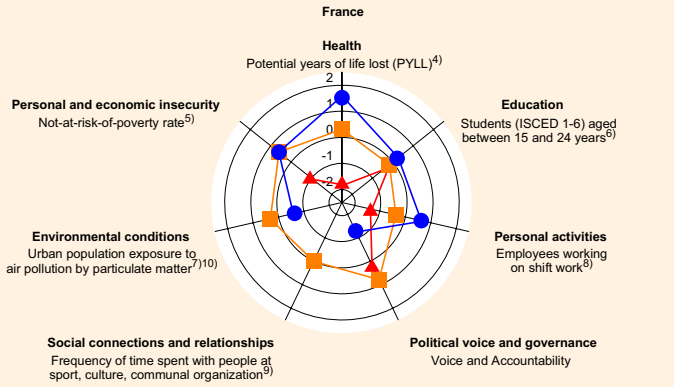
Chart 3

Non-material quality-of-life indicators[1)]





1) Own calculations; values are not comparable across countries. Average = 0; value higher than 0 implies better conditions and vice versa.– 2) Health: 1991, Personal activities: 1992, Political voice and governance: 1996, Education: Germany: 1992, France: 1993, Enviromental conditions: Germany: 1999, France: 2001, Personal and economic insecurity: Germany: 1992, France: 1995 .– 3) Health: 2006, Education and Personal activities: 2009, Political voice and governance and Enviromental conditions: 2008; Personal and economic insecurity: Germany: 2009, France: 2008.– 4) PYLL is a summary measure of premature mortality which provides an explicit way of weighting deaths occuring at younger ages, which are, a priori, preventable. In relation to 100,000 population, calculated by the OECD Secretariat based on age-specific death statistics provided by the World Health Organization.– 5) One minus share of persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers.– 6) In relation to the population in the same age group.– 7) The indicator shows the population weighted annual mean concentration of particulate matter at urban background stations in agglomerations.– 8) As a percentage of total employees.– 9) Only data available: 1999.– 10) For 2000: 2001 data.

Sources for calculations: EU, OECD, SOEP, The World Bank, World Values Survey

Appendix

Chart 5

Dashboard for Monitoring Economic Performance, Quality of Life and Sustainability

Economic Performance (A)	Quality of Life (B)	Sustainability (C)
GDP per capita	Health: Potential years of life lost	Private sector net fixed capitel formation (% of GDP)
GDP per hours worked	Education: Students (ISCED 1-6) aged between 15 and 24 years	R&D investment (% of GDP)
Employment rate (15 - 64 age group)	Personal activities: Employees working on shift work	Cyclically adjusted fiscal balance (% of GDP)
Net national income per capita	Political voice and governance: Voice and Accountability	Fiscal sustainability gap S2
Final consumption expenditure per capita (including government consumption)	Social connections and relationships: Frequency of time spent with people at sport, culture, communal organization	Total private credit to GDP gap
Distribution measure of net income per consumption unit (income quintile share ratio (S80/S20); internationally harmonized)	Environmental conditions: Urban population exposure to air pollution by particulate matter	Real equity price gap
	Personal and economic insecurity: Not-at-risk-of-poverty rate	Real property price gap
		Level of greenhouse gas emissions
		Greenhouse gas emissions per capita
		Resource productivity (GDP relative to non-renewable Domestic Material Input, DMI)
		Resource consumption (non-renewable Domestic Material Consumption - DMC, per capita)
		Biodiversity (preliminary indicator: bird index)

Beyond GDP

MEASURING WHAT COUNTS FOR ECONOMIC AND SOCIAL PERFORMANCE

Joseph E. **STIGLITZ**, Jean-Paul **FITOUSSI**
and Martine **DURAND**

OECD

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Executive Summary

The High-Level Expert Group on the Measurement of Economic Performance and Social Progress (HLEG) builds on the analyses and recommendations of the 2009 Commission on the Measurement of Economic Performance and Social Progress (the "Stiglitz-Sen-Fitoussi" Commission, SSF) in highlighting the role of well-being metrics in policy and encouraging a more active dialogue between economic theory and statistical practice. The report makes explicit the often-implicit assumptions hidden in statistical practices and their real-world consequences. Its central message is that what we measure affects what we do. If we measure the wrong thing, we will do the wrong thing. If we don't measure something, it becomes neglected, as if the problem didn't exist.

There is no simple way of representing every aspect of well-being in a single number in the way GDP describes market economic output. This has led to GDP being used as a proxy for both economic welfare (i.e. people's command over commodities), and general welfare (which also depends on people's attributes and non-market activities). GDP was not designed for this task. We need to move "Beyond GDP" when assessing a country's health, and complement GDP with a broader dashboard of indicators that would reflect the distribution of well-being in society and its sustainability across its social, economic and environmental dimensions. The challenge is to make the dashboard small enough to be easily comprehensible, but large enough to summarise what we care about the most.

The 2008 crisis and its aftermath illustrate why a change in perspective is needed. The GDP loss that followed the crisis was not the temporary one-off event predicted by conventional macro-economic models. Its effects have lasted over time, suggesting that the crisis caused the permanent loss of significant amounts of capital; not just machines and structures, but also "hidden capital", in the form of lower on-the-job training, permanents scars on youths entering the labour market during a recession, and lower trust in an economic system "rigged" to benefit a few.

Different metrics, including better measures of people's economic insecurity, could have shown that the consequences of the recession were much deeper than GDP statistics indicated, and governments might have responded more strongly to mitigate the negative impacts of the crisis. If, based on GDP, the economy is perceived to be well on the road to recovery, as many governments believed in 2010, one would not take the strong policy measures needed to support people's living conditions suggested by metrics that inform on whether most of the population still feels in recession. Nor would one take measures to bolster the safety net and social protection in the absence of metrics on the extent of people's economic insecurity.

These failings in the policy responses to the crisis were compounded by overly focusing on the consequences of public spending in raising government's liabilities, when this spending could take the form of investment increasing the assets in governments' and countries' balance sheets. The same follows when measures of unemployment do not reflect the full extent of a country's "unused" labour resources. The "Beyond GDP"

agenda is sometimes characterised as "anti-growth", but this is not the case: the use of a dashboard of indicators reflecting what we value as a society would have led, most likely, to stronger GDP growth than that actually achieved by most countries after 2008.

This book also looks at progress in implementing the recommendations of SSF since 2009, identifying areas that require increased focus by statistical agencies, researchers and policy-makers. The UN Sustainable Development Goals, agreed by the international community in 2015, clearly go far "Beyond GDP", but their 169 policy targets and more than 200 indicators for "global monitoring" are too many to guide policies. Countries will have to identify their priorities within the broader UN agenda, and upgrade their statistical capacities which, even in developed countries, are insufficient to monitor whether the agreed commitments are being met. The international community should invest in upgrading the statistical capacity of developing countries, especially in areas where country data are needed to assess global phenomena, such as climate change or the world distribution of income.

Inequality in income and wealth has today a central role in policy discussions in ways it did not in 2009. But important progress is still needed in a range of areas, such as measuring what happens at both ends of the income distribution, integrating different data sources, and measuring the joint distribution of income, consumption and wealth at the individual level. When looking at inequality, it is also important to look at differences between groups ("horizontal inequalities"), at inequalities within households and the way resources are shared and managed, which are especially important in the case of wealth. We should also look beyond inequalities in outcomes to inequality of opportunity. Inequality of opportunity is even more unacceptable than inequality of outcomes, but the operational distinction between the two is fuzzy, as we don't observe all circumstances that shape people's outcomes and are independent of their efforts. It is also important to pursue efforts to integrate information on economic inequalities within national accounts, to provide metrics of how GDP growth is shared in as timely a fashion as output statistics.

The book also highlights metrics that still lack a solid foundation within official statistics. Subjective well-being measures are critical to assess the non-monetary costs and benefits of public programmes and policies. While much progress has been achieved since 2009 in embedding these measures in large-sample official surveys, such efforts should be maintained to shed light on the many measurement and research issues that are still open. Economic insecurity is a "new" field where much more effort is needed to develop metrics of the shocks affecting people, and of the buffers available to them. The 2008 crisis reduced not just people's economic security but also their trust, because of the widespread perception of the unfairness in the manner in which the crisis was handled. The loss of trust (both in others and in institutions) is a long-lasting legacy of the crisis, whose effects are contributing to the political upheavals we are witnessing around the world. Finally, the measurement of sustainability in its environmental, economic and social dimensions, and of the resilience of systems to shocks, are priorities for research and statistical practice, requiring the contributions of different disciplines and approaches.

The book provides 12 recommendations for further work in all these areas, which complement those in the Stiglitz, Sen and Fitoussi (2009) report.

While different measures are clearly needed, alone they are not enough. What also matters is to anchor these indicators in the policy process, in ways that survive the vagaries of electoral cycles. This book draws on country-experiences to show how well-being indicators are being used in the different stages in the policy cycle, from identifying priorities for action, to assessing the advantages and disadvantages of different strategies

to achieve a given policy goal, to help allocate the resources needed to implement the selected strategy, to monitor interventions in real time as they are implemented, and to audit the results achieved by policies and programmes to help decide how to change them in the future. Steps taken by several countries in this direction are described in this book. While these experiences are recent, they hold the promise of delivering policies that, by going beyond traditional silos, are more effective in achieving their goals and that could help in restoring people's trust that public policies can deliver what we all care about: an equitable and sustainable society.

An Economy for the Common Good: Building a Balance Sheet for Companies' Impact

By Christian Felber

More than two thousand years after Aristotle, a growing movement is bridging his division between ***oikonomia*** - an economy that supports the common good - and ***chrematistike*** - making money.

The movement for an "Economy for the Common Good," launched in Austria in 2010, has gained the support of 2,200 companies in 50 countries. Most recently, a committee of the European Union overwhelmingly supported a recommendation to incorporate the Economy for the Common Good framework into the EU and member-state legal systems.

The framework is an attempt to overcome the confusion over whether capital is a means, or the goal. In oikonomia, money served as nothing more than a means to an end: holistic well-being and the comfort and security it brings. Through chrematistike, however, money turned into a goal in and of itself, wrapped up in the ideology of generating profit and growth, much like in capitalism today. Between these two approaches there has always been a wide gap and painfully little room for common ground, since the objectives are so very different.

Full Costs

Measuring economic and business success in terms of financial bottom line alone does not take into account the costs to society incurred in generating profits. For example, costs to the environment to democracy and human dignity — to name just a few. The systematic pursuit of strictly financial profits fosters the narrow, short-term, bottom-line-focused vision that's crippling our market system, leaving it unable to serve companies, workers or consumers as it should - let alone the planet.

The concept of promoting general welfare is embedded in the constitutions of sovereign nations around the world — including the constitution of the United States, where it is stated in the preamble. The pursuit of profit and money purely for money's sake is mentioned nowhere. Yet the contradiction persists and the gap it has created keeps widening.

Clearly it's time to reconcile these two systems, and breath a soul back into economics while re-embedding the economy into our cultural value system in a way that elevates social responsibility and the common good over profit.

With this in mind, a dozen companies in Austria launched, in 2010, an initiative called The Economy For The Common Good (ECG). This idea of a complete and coherent, alternative economic model has since grown into a veritable movement geared toward repurposing economic activity so its fundamental objective is to increase the wellbeing of the population at large as well as the integrity of our planet rather than simply maximizing profits. Since then, it has spread to almost 50 countries and gained the support of 2200 companies and 200 local chapters that work with businesses, governments, universities and civil society.

The movement has recently achieved a first major political success at the European Union level: the EU's Economic and Social Committee has approved an opinion paper requesting that the EU move toward incorporating the ECG into the Union's as well as its member-states' legal frameworks. The paper has the backing of 86% of the members of the Committee.

The centerpiece of the ECG model is the adjustment of success-measurement at every level of the economy bearing in mind the constitutional goal of supporting the common good. In the present system, economic success is measured in relation to means (money) and its accumulation. As monetary indicators, Gross Domestic Product, financial profit and return on

investment provide a one-sided assessment of economic activity. They don't account for the economy's true purpose: the satisfaction of human needs, quality of life and the fulfillment of fundamental values. In other words, promoting common good.

Early adopters

Three innovations aim to rectify this: the Common Good Product, the Common Good Balance Sheet and the Common Good Exam of investment projects.

On the company level, the Common Good Balance Sheet measures how firms fulfill key constitutional values that serve the common good. These include human dignity, solidarity, justice, ecological sustainability and democracy. This new balance sheet measures some 20 common good indicators, including:

- Do products and services satisfy human needs?
- How humane are working conditions?
- How environmentally-friendly production processes?
- How ethical are sales and purchasing policies?
- How are profits distributed?
- Do women and minorities receive equal pay for equal work?
- Are employees involved in core, strategic decision making?

(balance sheet)

So far, 400 European businesses have started using the Common Good Balance Sheet and its grading system which awards credits and demerits depending on each company's activities impact the common good. A number of towns in Spain, Italy and Austria have also decided to become Common Good Municipalities with the support of regional parliaments.

The companies and towns rate their activities according to a list of indicators, and the results are examined by external auditors. Each one can reach a maximum of 1000 points. Up until now the average is around 300, which shows that there is still much room for improvement among companies across the board.

If all companies scored 1000 points, we'd have no poverty and unemployment any more, an excellent environment, gender justice, peace, and a well-working democracy.

These companies are using the balance sheet out of sheer interest, without any incentive - although consumers, investors, skilled workers who look for meaningful employment as well as the media public are paying increasing attention to this new business approach. However, ideally an incentive system would be put in place rewarding good results with tax reliefs, lower tariffs, better loan conditions and priority in public procurement among other things.

Tax Treatment

For example, on the trade front, rather than a blanket trade agreement on a country-by-country or regional basis, the U.S. we could require individual companies seeking to sell goods within its borders to present strong Common Good Balance Sheet results. Failing these, tariffs would be applied, increasing progressively as performance declines.

Companies disrespecting international labor standards — say, through child labor or poor health and safety conditions — or ravaging the environment would be hard hit. So would those engaged in any form of dumping, from wages to taxes.

Ultimately, ethical products and services would become cheaper for consumers than less ethical ones, and only socially responsible businesses could survive. Non-ethical business would find themselves either forced to change or facing insolvency. The Common Good Balance Sheet would become as important as today's financial balance sheet.

Then, perhaps, ***chrematistike*** capitalism would evolve into a different, stronger system benefitting all. And Aristotle could smile down as economic and business practices move closer to the ***oikonomia*** he prefererred.

Christian Felber Founder of the The Economy For The Common Good. Author of 15 books, including - Change Everything: Creating an Economy For The Common Good

THE BLOG , 10/18/2016 *http://www.huffingtonpost.com/christian-felber/an-economy-for-the-common_b_12537142.html*

What is the Economy for the Common Good?

The Economy for the Common Good describes an economic system that is built on **values that promote the common good**.
It is a transformational lever, economically, politically and socially.

The Economy for the Common Good is

...economically, a viable, concrete and workable alternative for companies of different sizes and legal structures.
The purpose of an organisation and the evaluation of its success are determined according to values that serve the common good.

...politically, an engine for legal change. The objective of engagement is a good life for all living beings and for the planet, underpinned by an economic system that serves the common good.
Human dignity, global fairness and solidarity, ecological sustainability, social justice and democratic participation are all essential ingredients.

...socially, an initiative to raise awareness for changing the system, based on the collective and respectful actions of as many people as possible.
The movement gives hope and courage, and seeks mutual enhancement and networking with other alternative initiatives.

It is an **open-minded, participatory and locally growing process** with a global outlook.

https://www.ecogood.org/en/vision/

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Last update on 18. Dezember 2014 under Allgemein

COMMON GOOD MATRIX 4.1

This version is valid for Common Good Balance Sheets generated in 2013

ECONOMY FOR THE COMMON GOOD

An economic model for the future

VALUE / STAKEHOLDER	Human dignity	Cooperation and Solidarity	Ecological Sustainability	Social Justice	Democratic Co-determination and Transparency
A) Suppliers	**A1: Ethical Supply Management** Active examination of the risks of purchased goods and services, consideration of the social and ecological aspects of suppliers and service partners 90				
B) Investors	**B1: Ethical Financial Management** Consideration of social and ecological aspects when choosing financial services; common good-oriented investments and financing 30				
C) Employees, including business owners	**C1: Workplace quality and affirmative action** Employee-oriented organizational culture and structure, fair employment and payment policies, workplace health and safety, work-life balance, flexible work hours, equal opportunity and diversity 90	**C2: Just distribution of labor** Reduction of overtime, eliminating unpaid overtime, reduction of total work hours, contribution to the reduction of unemployment 50	**C3: Promotion of environmentally friendly behavior of employees** ctive promotion of sustainable lifestyles of employees (mobility, nutrition), training and awareness-raising activities, sustainable organizational culture 30	**C4: Just income distribution** Low income disparity within a company, compliance with minimum and maximum wages 60	**C5: Corporate democracy and transparency** Comprehensive transparency within the company, election of managers by employees, democratic decision-making on fundamental strategic issues, transfer of property to employees 90
D) Customers / Products / Services / Business Partners	**D1: Ethical customer relations** Ethical business relations with customers, customer orientation and co-determination, joint product development, high quality of service, high product transparency 50	**D2: Cooperation with businesses in same field** Transfer of know-how, personnel, contracts and interest-free loans to other business in the same field, participation in cooperative marketing activities and crisis management 70	**D3: Ecological design of products and services** Offering of ecologically superior products/services; awareness raising programmes, consideration of ecological aspects when choosing customer target groups 90	**D4: Socially oriented design of products and services** Information, products and services for disadvantaged groups, support for value-oriented market structures 30	**D5: Raising social and ecological standards** Exemplary business behavior, development of higher standards with businesses in the same field, lobbying 30
E) Social Environment: Region, electorate, future generations, civil society, fellow human beings, animals and plants	**E1: Value and social impact of products and services** Products and services fulfill basic human needs or serve humankind, society or the environment 90	**E2: Contribution to the local community** Mutual support and cooperation through financial resources, services, products, logistics, time, know-how, knowledge, contacts, influence 40	**E3: Reduction of environmental impact** Reduction of environmental effects towards a sustainable level, resources, energy, climate, emissions, waste etc. 70	**E4: Investing profits for the Common Good** Reducing or eliminating dividend payments to extern, payouts to employees, increasing equity, social-ecological investments 60	**E5: Social transparency and co-determination,** Common good and sustainability reports, participation in decision-making by local stakeholders and NGO´s 30
Negative Criteria	Violation of ILO norms (international labor standards) / human rights -200 Products detrimental to human dignity and human rights (e.g. landmines, nuclear power, GMO's) -200 Outsourcing to or cooperation with companies which violate human dignity -150	Hostile takeover -200 Blocking patents -100 Dumping Prices -200	Massive environmental pollution -200 Gross violation of environmental standards -200 Planned obsolescence (short lifespan of products) -100	Unequal pay for women and men -200 Job cuts or moving jobs overseas despite having made a profit -150 Subsidiaries in tax havens -200 Equity yield rate >10 % -200	Non-disclosure of subsidiaries -100 Prohibition of a works council -150 Non-disclosure of payments to lobbyists -200 Excessive income inequality within a business -150

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1.2. Common Good Matrix and Common Good Balance Sheet

The Common Good Matrix is a framework for the evaluation of business activities and an aid for organisational development. It describes 20 Common Good themes and gives guidance on how to evaluate based on Common Good principles. These are summarised in the table below:

COMMON GOOD MATRIX 5.0

ECONOMY FOR THE COMMON GOOD
An economic model for the future

VALUE / STAKEHOLDER	HUMAN DIGNITY	SOLIDARITY AND SOCIAL JUSTICE	ENVIRONMENTAL SUSTAINABILITY	TRANSPARENCY AND CO-DETERMINATION
A: SUPPLIERS	**A1** Human dignity in the supply chain	**A2** Solidarity and social justice in the supply chain	**A3** Environmental sustainability in the supply chain	**A4** Transparency and co-determination in the supply chain
B: OWNERS, EQUITY- AND FINANCIAL SERVICE PROVIDERS	**B1** Ethical position in relation to financial resources	**B2** Social position in relation to financial resources	**B3** Use of funds in relation to social and environmental impacts	**B4** Ownership and co-determination
C: EMPLOYEES, INCLUDING CO-WORKING EMPLOYERS	**C1** Human dignity in the workplace and working environment	**C2** Self-determined working arrangements	**C3** Environmentally-friendly behaviour of staff	**C4** Co-determination and transparency within the organisation
D: CUSTOMERS AND OTHER COMPANIES	**D1** Ethical customer relations	**D2** Cooperation and solidarity with other companies	**D3** Impact on the environment of the use and disposal of products and services	**D4** Customer participation and product transparency
E: SOCIAL ENVIRONMENT	**E1** Purpose of products and services and their effects on society	**E2** Contribution to the community	**E3** Reduction of environmental impact	**E4** Social co-determination and transparency

A Common Good Report is a comprehensive evaluation of a company's contribution to the common good, and is prepared as part of the reporting process. It should include a description of how the company's activities relate to each of the 20 common good themes. This will show how developed each value is within the company. Each theme describes how the individual values apply to the relevant stakeholder group.

The Certificate documents an externally audited evaluation of the individual themes, gives an overall score (Common Good Points), and presents this in the layout of the Matrix (a clear and concise overview on an A4 page).

Together, the Common Good Report and Certificate represent the Common Good Balance Sheet.
Common Good Reports can be prepared using the report template, and Common Good Points can be calculated using the balance sheet calculator.

Publisher: Matrix Development Team
Date: April 2017
Authors: Manfred Blachfellner, Angela Drosg-Plöckinger, Susanna Fieber, Gerd Hofielen, Lutz Knakrügge, Manfred Kofranek, Sigrid Koloo, Christian Loy, Christian Rüther, Dominik Sennes, Regina Sörgel, Moritz Teriete
Editors: Angela Drosg-Plöckinger, Manfred Kofranek, Sigrid Koloo
Translation: Frankcontent
Design: cardamom

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About Doughnut Economics

Meet the Doughnut and the concepts at the heart of Doughnut Economics

The Doughnut offers a vision of what it means for humanity to thrive in the 21st century - and Doughnut Economics explores the mindset and ways of thinking needed to get us there.

First published in 2012 in an Oxfam report by Kate Raworth, the concept rapidly gained traction internationally, from the UN General Assembly to the Occupy movement.

Kate's 2017 book, *Doughnut Economics: seven ways to think like a 21st century economist,* further explored the economic thinking needed to bring humanity into the Doughnut, drawing together insights from diverse economic perspectives in a way that everyone can understand. The book soon became an international bestseller and has now been translated into over 20 languages.

Here's a summary of the book's core messages in a 2018 TED talk.

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The Doughnut's holistic scope and visual simplicity, coupled with its scientific grounding, has turned it into a convening space for big conversations about reimagining and remaking the future. It is now being discussed, debated and put into practice in education and in communities, in business and in government, in towns, cities and nations worldwide.

Read on to find out more about the Doughnut, the core ideas of Doughnut Economics, its implications for business and organisations, and the principles to be followed by anyone wanting to put it into practice.

What is the Doughnut?

Think of it as a compass for human prosperity in the 21st century, with the aim of meeting the needs of all people within the means of the living planet.

The Doughnut consists of two concentric rings: a social foundation, to ensure that no one is left falling short on life's essentials, and an ecological ceiling, to ensure that humanity does not collectively overshoot the planetary boundaries that protect Earth's

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The Doughnut of social and planetary boundaries

What is Doughnut Economics?

If the 21st century goal is to meet the needs of all people within the means of the living planet - in other words, get into the Doughnut - then how can humanity get there? Not with last century's economic thinking.

Doughnut Economics proposes an economic mindset that's fit for the 21st century context and challenges. It's not a set of policies and institutions, but rather a way of thinking that brings about the regenerative and distributive dynamics that this century calls for. Drawing on insights from diverse schools of economic thought - including ecological, feminist, institutional, behavioural and complexity economics - it sets out seven ways to think like a 21st century economist in order to bring the world's economies into the safe and just space for humanity.

The starting point of Doughnut Economics is to change the goal from endless GDP growth to thriving in the Doughnut. At the same time, begin economic analysis by seeing the big picture and recognising that the economy is embedded within, and dependent upon, society and the living world. Doughnut Economics recognises that human behaviour can be nurtured to be cooperative and caring, just as it can be competitive and individualistic. It also recognises that economies, societies, and the rest of the living world, are complex, interdependent systems that are best understood through the lens of systems thinking. And it calls for turning today's degenerative economies into regenerative ones, and divisive economies into far more distributive ones. Lastly, Doughnut Economics recognises that growth is a healthy phase of life but nothing grows forever and things that succeed do so by growing until it is time to grow up and thrive instead.

Dive deeper into the seven ways to think like a 21st century economist with our series of one-minute animations, and in the visual summary below:

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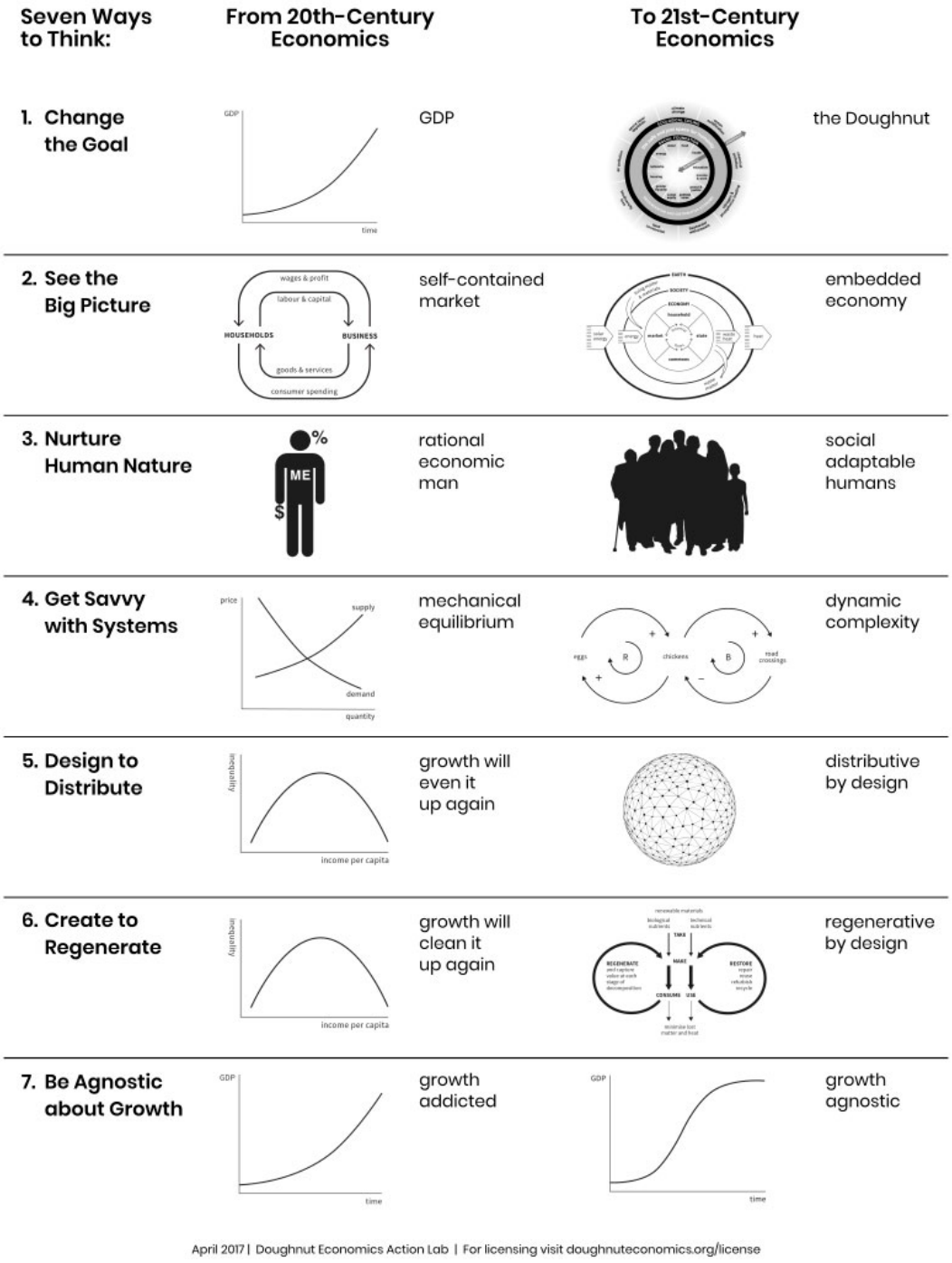

Seven ways to think like a 21st century economist

It all comes down to design

What would make it possible for an organisation to become regenerative and distributive so that it helps bring humanity into the Doughnut? DEAL has run workshops for businesses, city departments, foundations and other kinds of organisations that want to explore this question, and the implications are transformational.

At the heart of these workshops is a focus on design: not the design of their products and services, or even of their office buildings, but the design of the organisation itself. As described by Marjorie Kelly, a leading theorist in next-generation enterprise design, there are five key design traits that powerfully shape what an organisation can do and be in the world: its purpose, networks, governance, ownership and finance.

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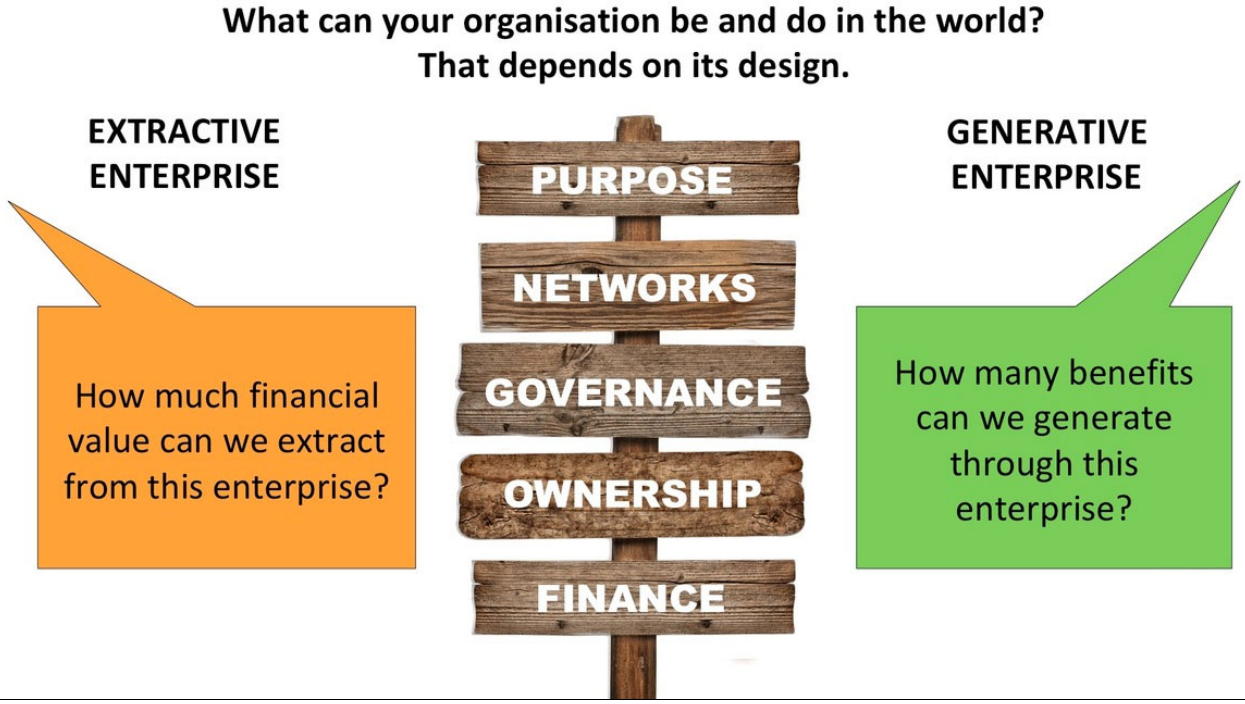
Networks. What are the organisation's networks? How does it relate to its customers or members, its staff or volunteers, its suppliers, neighbours and allies? Are they aligned with its purpose and values, or are they caught up in a culture that undermines them?

Governance. How is the organisation governed? Who is in the room when decisions get made, and who has voice in those decisions? How is progress towards the purpose measured, and how is that purpose safeguarded when under pressure?

Ownership. Who owns the organisation? Who owns the land it is on, the data it generates, the knowledge that it creates, the assets that it holds? Is is owned by a founding entrepreneur or by a family, by shareholders or by the state, by its own employees or by venture capital? The design of ownership profoundly shapes the last –– and deepest –– design trait.

Finance. How is the organisation financed, and what is that finance demanding? Is it seeking fast and high financial returns, or it is invested in generating social and ecological value, with or without financial return? Is that finance in service to the organisation's purpose, or in service to itself?

Together these five design traits profoundly shape an organisation's ability to become regenerative and distributive by design, and so help bring humanity into the Doughnut. Find out more about what it means for the future of business.



The five key design traits of organisations

The Doughnut Principles of Practice

We set up Doughnut Economics Action Lab and the DEAL Community to turn Doughnut Economics from a radical idea into transformative action.

In order to ensure the integrity of the ideas as they are put into practice, we have turned the Seven Ways to Think, and the five key design traits of organisations, into the Doughnut Principles of Practice. We ask that these principles are followed by any initiative that is working to put the ideas of Doughnut Economics into practice. Find out more about what it means to put them into practice in the DEAL Community.

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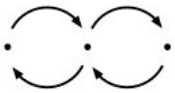
In order to ensure the integrity of the ideas of Doughnut Economics as they are put into practice, we have turned the Seven Ways to Think, and the five key design traits of organisations, into the Doughnut Principles of Practice. We ask that these principles are followed by any initiative that is working to put the ideas of Doughnut Economics into practice.

Embrace the 21st century goal. Aim to meet the needs of all people within the means of the planet. Seek to align your organisation's purpose, networks, governance, ownership and finance with this goal. Expect the work to be challenging, innovative and transformative.

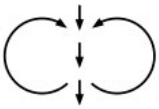
See the big picture. Recognise the potential roles of the household, the commons, the market and the state – and their many synergies – in transforming economies. Ensure that finance serves the work rather than drives it.

Nurture human nature. Promote diversity, participation, collaboration and reciprocity. Strengthen community networks and work with a spirit of high trust. Care for the wellbeing of the team.



Think in systems. Experiment, learn, adapt, evolve and aim for continuous improvement. Be alert to dynamic effects, feedback loops and tipping points.

Be distributive. Work in the spirit of open design and share the value created with all who co-created it. Be aware of power and seek to redistribute it to improve equity amongst stakeholders.



Be regenerative. Aim to work with and within the cycles of the living world. Be a sharer, repairer, regenerator, steward. Reduce travel, minimize flights, be climate and energy smart.

Aim to thrive rather than to grow. Don't let growth become a goal in itself. Know when to let the work spread out via others rather than scale up in size.

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Joint Economic Forecast – 29 September 2022

Joint Economic Forecast Autumn 2022: Energy Crisis: Inflation, Recession, Welfare Loss

The German economy is being hit hard by the crisis on the gas markets. Skyrocketing gas prices are drastically increasing energy costs and are accompanied by a massive macroeconomic withdrawal of purchasing power. This is not only dampening the still incomplete recovery from the coronavirus crisis, but also pushing the German economy into recession. Overall, the institutes expect gross domestic product to expand by 1.4 percent this year and contract by 0.4 percent next year. In 2024, GDP will expand at an annual average rate of 1.9 percent.

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The **reduced gas supplies from Russia** have eliminated a significant portion of the supply and also increased the risk that the remaining supply and storage volumes in winter are not sufficient to meet demand. As a result, gas prices skyrocketed in the summer months. Companies have already started to cut their gas consumption noticeably. Even though the institutes do not expect a gas shortage in normal weather conditions for the coming winter, the **supply situation** remains **extremely tight**.

Inflation Breaks Records

Increased **energy prices reinforce the upward pressure on prices** that had already begun in the coronavirus pandemic. As a result of the Covid-19 protection measures, international supply chains were significantly disrupted, which was accompanied by rising prices for raw materials and intermediate products. These price increases were passed on to consumers. Very expansive monetary and fiscal policy further intensified the upward pressure on prices. As a result, consumer prices are rising across the board. In the meantime, inflation rates have reached levels that exceed even the high-inflation phases in the 1970s and early 1980s. All in all, inflation this year is at an average rate of 8.4 percent, the highest since the Federal Republic of Germany was founded. In the coming year, inflation will likely rise even further to an average of 8.8 percent for the year. For 2024, the institutes expect inflation to calm down again and to be only slightly above the ECB's target rate of 2 percent.

The sharp rise in consumer prices is eroding the **purchasing power of private households**. The fact that private consumption nevertheless expanded significantly in the first half of the year is due to private households saving less. In the process, some are probably also drawing on the funds accumulated during the pandemic, not least to enjoy more of the services they had to do without during this period. In the meantime, however, the outlook for consumption has clouded over considerably. Inflation, which remains high due to the delayed pass-through of gas and electricity prices, will cause real disposable incomes to fall significantly into the coming year. The massive withdrawal of purchasing power is likely to cause private consumption to decline until the summer of next year and not recover until the second half of the forecast period.

Companies are affected very differently by the sharp rise in energy prices. At present, many are managing to pass on the cost increases to customers. Energy-intensive companies, above all in the chemical industry, have been significantly more affected by the crisis on the gas market. To cut costs, many companies have started to reduce their gas consumption. On the one hand, this has been done by substituting gas with other production factors. On the other hand, production has been cut back significantly, especially in the chemical industry. As a result of declining purchasing power among private households, the consumer-related sectors of the economy are also coming under increasing pressure.

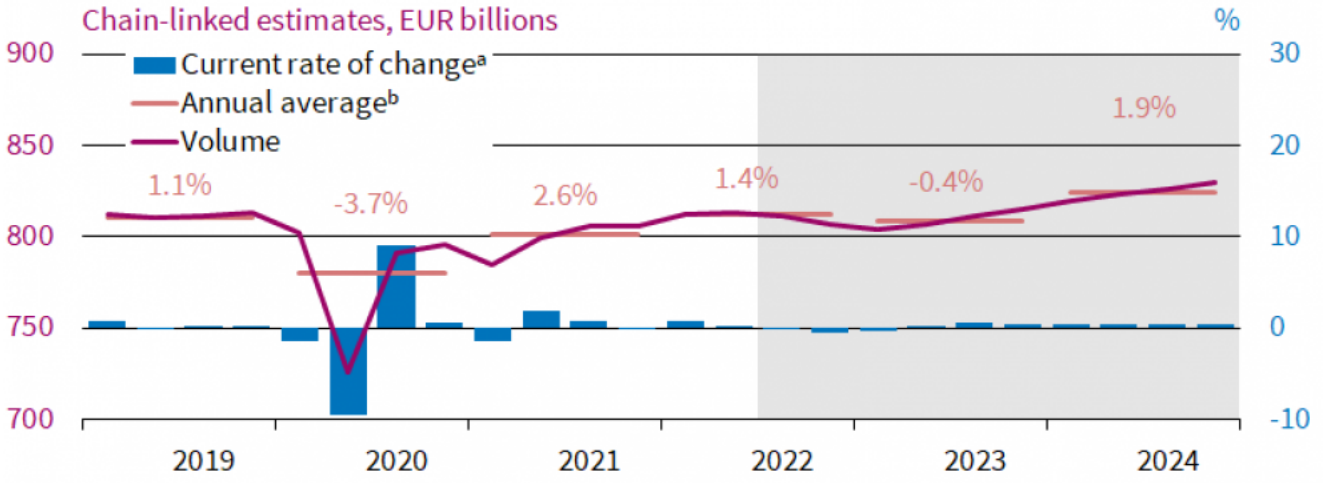
Temporarily Declining Employment

The labor market is having a stabilizing effect on economic development. Demand for new workers is likely to remain low in view of the crisis-related weak phase. However, due to the shortage of skilled workers in many areas, companies will endeavor to maintain existing staff levels, so that employment is likely to fall only slightly for the time being. As the recovery progresses, employment is then expected to increase again. The average annual unemployment rate in 2023 and 2024 will be 5.5 percent and 5.3 percent respectively, compared with 5.3 percent in the current year.

Public Budgets Remain in the Red

The general government budget deficit was 3.7 percent as a share of GDP in 2021 due to extensive pandemic-related fiscal measures. Although a large number of fiscal policy measures were launched in the current year to cushion the impact of high energy prices, the budget deficit will nevertheless narrow significantly as coronavirus-related measures expire and nominal GDP rises strongly. The discontinuation of crisis-related measures will further improve the situation of public budgets. However, they will continue to run deficits throughout the forecast period. The general government deficit is expected to be EUR 73 billion in 2022, EUR 51 billion in 2023, and EUR 42 billion in 2024.

Gross Domestic Product in Germany
Price, seasonally and calendar adjusted



[a] Change compared to the previous quarter in %.
[b] Figure: Change in original figures compared to the previous year.
Source: Federal Statistical Office; calculations by the Institutes;
from 3rd quarter 2022: forecast by the Institutes.

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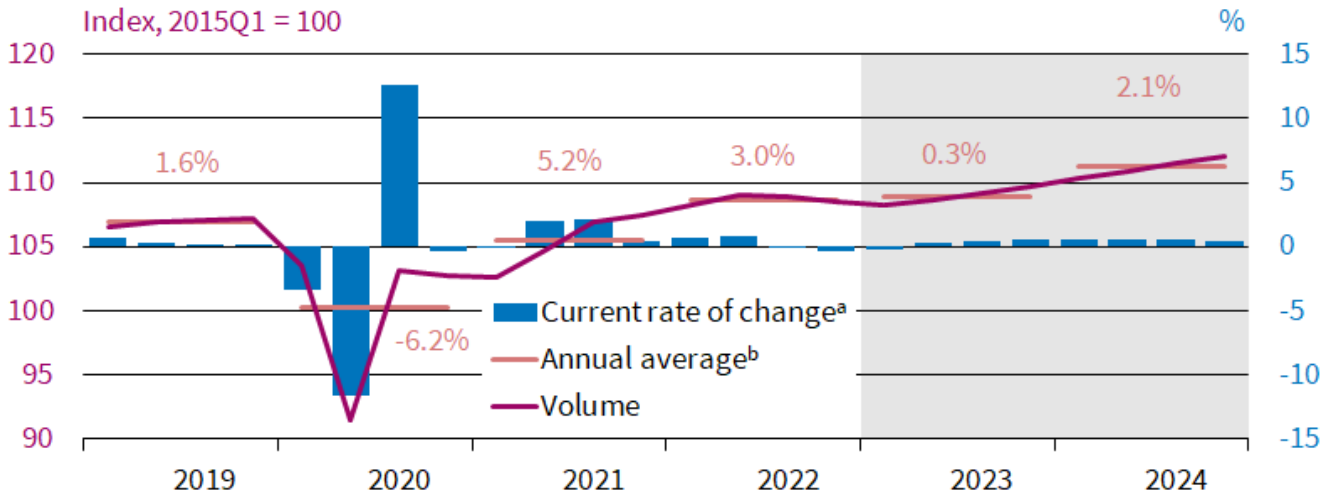
Global Economy in Downturn

The global economy is in a downturn. The war against Ukraine that broke out in February of this year and Western sanctions against Russia have once again fueled inflation for energy commodities; Europe, where disappearing gas supplies from Russia can be replaced only to a small extent, is now struggling with an energy crisis. High inflation rates have prompted the US

Federal Reserve and many other central banks to tighten monetary policy decisively. In China, the strict zero-covid strategy repeatedly prompts the government to prevent economic activity through lockdowns. In addition, a real estate crisis is simmering in China, weighing on the country's construction sector and financial system. Weakening global demand should contribute to a softening of prices for industrial goods and a gradual easing of global supply chain problems. However, the processing of existing orders is still supporting the economy for the time being.

Against this backdrop, the institutes expect global production to grow by 2.5 percent this year and 1.8 percent next year. Only in 2024 is it likely to be stronger again, at 3.0 percent. Global trade in goods will expand at a rate of 1.6 percent in 2023, less than half the rate this year. **Inflation** will remain very high next year, particularly in European countries, and is not expected to ease appreciably until 2024. The institutes expect GDP in the United States to grow by 3.1 percent this year, by 0.6 percent in 2023, and by 2.5 percent in 2024. **GDP growth in the EU is expected to be 3.1 percent in 2022, 0.1 percent in 2023, and 2.2 percent in 2024.**

Real Gross Domestic Product in the Euro Area
Seasonally and calendar adjusted



[a] Change compared to the previous quarter in %. [b] Figure: Change compared to the previous year.
Source: Eurostat; calculations by the institutes;
from 3rd quarter 2022: forecast by the institutes.

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Risks

- Gas Availability
- Coronavirus Pandemic

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Press Release with Key Forecast Figures (PDF)
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Press Release

Contact

Prof. Dr. Timo Wollmershäuser

Deputy Director of the ifo Center for Macroeconomics and Surveys and Head of Forecasts

Tel +49(0)89/9224-1406

Fax +49(0)89/907795-1406

Mail
wollmershaeuser@ifo.de

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