

Heindl, Peter; Voigt, Sebastian

**Working Paper**

## Employment effects of regional climate policy: The case of renewable energy promotion by feed-in tariffs

ZEW Discussion Papers, No. 12-066

**Provided in Cooperation with:**

ZEW - Leibniz Centre for European Economic Research

*Suggested Citation:* Heindl, Peter; Voigt, Sebastian (2012) : Employment effects of regional climate policy: The case of renewable energy promotion by feed-in tariffs, ZEW Discussion Papers, No. 12-066, Zentrum für Europäische Wirtschaftsforschung (ZEW), Mannheim, <https://nbn-resolving.de/urn:nbn:de:bsz:180-madoc-326164>

This Version is available at:

<https://hdl.handle.net/10419/66115>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

Discussion Paper No. 12-066

**Employment Effects of Regional  
Climate Policy:  
The Case of Renewable Energy  
Promotion by Feed-In Tariffs**

Peter Heindl and Sebastian Voigt

**ZEW**

Zentrum für Europäische  
Wirtschaftsforschung GmbH

Centre for European  
Economic Research

Discussion Paper No. 12-066

**Employment Effects of Regional  
Climate Policy:  
The Case of Renewable Energy  
Promotion by Feed-In Tariffs**

Peter Heindl and Sebastian Voigt

Download this ZEW Discussion Paper from our ftp server:

<http://ftp.zew.de/pub/zew-docs/dp/dp12066.pdf>

Die Discussion Papers dienen einer möglichst schnellen Verbreitung von neueren Forschungsarbeiten des ZEW. Die Beiträge liegen in alleiniger Verantwortung der Autoren und stellen nicht notwendigerweise die Meinung des ZEW dar.

---

Discussion Papers are intended to make results of ZEW research promptly available to other economists in order to encourage discussion and suggestions for revisions. The authors are solely responsible for the contents which do not necessarily represent the opinion of the ZEW.

## Non-Technical Summary

---

This paper examines the local impacts of renewable energy carrier promotion by the German feed-in tariffs scheme “Erneuerbare-Energien-Gesetz” for the German State of Baden-Wuerttemberg by using an input-output approach. The local impacts are of particular interest as in Baden-Wuerttemberg the manufacturing industries are highly important compared to the rest of Germany. We analyze the effects of the policy actions on the production as well as the employment of several sectors. We construct a regional input-output table of Baden-Wuerttemberg and introduce the construction and the operation of installations for seven renewable energy types in order to examine different paths to achieve the state government’s targets.

We consider two scenarios with different sources funding the investments in the construction and operation of renewable energy installations. In the first scenario, all the necessary investments are funded completely by internal sources. Hence, the scenario is driven by the assumption that these investments either crowd out investments in other industries of the regional economy or the investments are paid by the government, i.e. by taxes which are borne by all other industries and by the households. Therefore, the final demand of all other sectors decreases. In this scenario, we have a slightly positive total turnover effect, although in many sectors the turnover effect is negative. In addition, the total employment effect is negative since the more labour-intensive industries are affected more heavily from the policy than the less labour-intensive industries. The second scenario considers the case of a partly external funding by taking into account that the installations may be demanded from “abroad”, i.e. the rest of Germany and the rest of the world. Therefore, investments in other industries are not completely crowded out in this scenario. We find positive production and employment effects also for most industries besides the energy sector.

Our findings suggest that policy actions promoting renewable energy types do not necessarily create new jobs and additional turnover for the whole economy. They rather induce a structural change of the economy since other investments might be crowded out by investments in installations of renewable energy and the demand in other sectors might decrease. However, if the producers of the installations are able to export parts of their products to the rest of Germany and the rest of the world, these crowding out effects can be attenuated and turnover and employment effects might be positive in total.

## Das Wichtigste in Kürze

---

In diesem Arbeitspapier werden die Auswirkungen der Förderung erneuerbarer Energien unter dem Erneuerbare-Energien-Gesetz (EEG) auf lokaler Ebene für Baden-Württemberg untersucht. Da Baden-Württemberg zu den deutschen Bundesländern mit der höchsten wirtschaftlichen Leistung zählt, sind die Auswirkungen der Förderung erneuerbarer Energien von besonderem Interesse. Dieses Arbeitspapier untersucht anhand einer Input-Output-Analyse die Auswirkungen dieses Ziels auf regionaler Ebene. Zu diesem Zweck wird eine regionalisierte Input-Output-Tabelle des Landes erstellt, in die zusätzlich die Erstellung und der Betrieb von Anlagen für sieben Arten erneuerbarer Energien eingeführt werden.

Bei der Analyse liegt das Augenmerk insbesondere auf der Abschätzung der Entwicklung von Produktion und Beschäftigung. Dabei wurden im Wesentlichen zwei Szenarien unterstellt. In einem ersten Szenario müssen die Investitionen in Erneuerbare vollständig heimisch erbracht werden (insb. kein Export). Dies führt dazu, dass die Ausgaben und Investitionen von anderen Wirtschaftsbereichen in den Bereich der Erneuerbaren umgelenkt werden. In Folge dessen kommt es in zahlreichen Bereichen zu einer Verminderung der Produktion und insgesamt zum Verlust von Arbeitsplätzen. In einem zweiten Szenario wird angenommen, dass die Nachfrage nach erneuerbaren Energien von außen kommt, z.B. durch Export von Anlagen aus Baden-Württemberg in andere Länder oder Bundesländer. Dadurch müssen die lokalen Investitionen in anderen Wirtschaftsbereichen weniger stark vermindert werden, und es kommt zu positiven Effekten bei der Produktion und der Beschäftigung in Baden-Württemberg für fast alle Wirtschaftsbereiche.

Die Ergebnisse deuten darauf hin, dass die Förderung erneuerbarer Energien nicht automatisch zu zusätzlicher Produktion und neuen Arbeitsplätzen führt. Vielmehr wird ein struktureller Wandel herbeigeführt, der zu einem Rückgang der Nachfrage nach Gütern in vielen Wirtschaftsbereichen führen kann und dort folglich negativ auf Produktion und Beschäftigung wirkt. Positive Effekte für Produktion und Beschäftigung ergeben sich insbesondere dann, wenn es zu einem Export von Anlagen kommt, wodurch dem Land zusätzliche Mittel zufließen und ein Rückgang der Nachfrage in anderen Wirtschaftssektoren gemildert wird.

# Employment Effects of Regional Climate Policy: The Case of Renewable Energy Promotion by Feed-In Tariffs

Peter Heindl\*

Sebastian Voigt†

Centre for European Economic Research (ZEW)

Version of September 2012

**Abstract:** For the case of the German state of Baden-Wuerttemberg, production and employment effects of the promotion of renewable energy sources are examined based on a regionalized input-output table. Our findings suggest that policy actions promoting renewable energy types do not necessarily create new jobs and additional turnover for the whole economy. They rather induce a structural change of the economy since other investments might be crowded out by investments in installations of renewable energy and the demand in other sectors might decrease. However, if the producers of the installations are able to export parts of their products to the rest of Germany and/or the rest of the world, these crowding out effects can be attenuated and turnover and employment effects might be positive for the state in total.

**Keywords:** Renewable energy; Employment effects; Input output

**JEL-Classification:** C67; Q42; R11

---

## 1. Introduction

Many climate policies in Europe and elsewhere aim at supporting renewable energy sources, for instance by subsidizing these energy carriers through feed-in tariffs. Besides the potential to reduce greenhouse gases (GHG), some argue that such subsidies create new jobs and stimulate economic growth by generating a long-run advantage in technology. However, depending on the source of funding these investments, it is also possible that they crowd out investments or decrease demand in other sectors. Thus, the question arises which of these effects dominate. Under German law (“Erneuerbare-Energien-Gesetz”), renewable energy sources are subsidized by guaranteed feed-in tariffs for renewable energy sources, such as photovoltaic and wind power.

The paper envisages a regionally disaggregated coverage at the level of the German state of Baden-Wuerttemberg to evaluate the impact of renewable energy promotion on the state-level by examining the consequences of renewable energy promotion on regional production and employment. We chose an input-output (IO) approach to assess these impacts. Presently there is no updated regional table for the state and the latest version was created in 1990. Therefore, we create a regional input-output table for the

---

P. Heindl • S. Voigt (corresponding author)  
Department of Environmental and Resource Economics, Environmental Management  
Centre for European Economic Research (ZEW); L7, 1; D-68161 Mannheim (Germany)

\* P. Heindl: [heindl@zew.de](mailto:heindl@zew.de)

† S. Voigt: [voigt@zew.de](mailto:voigt@zew.de)

state of Baden-Wuerttemberg by regionalizing the German I-O table from 2006 in combination with various other sources. The creation of the new regional table and the respective data are described in detail below. In the regionalized table, seven renewable energy sources are considered: wind, solar PV, solar thermal, hydropower, biomass, biogas, and geothermal power. For each of the seven sources, the construction and the operation of the installations are considered separately.

We study two scenarios with different sources funding the investments in the construction and operation of renewable energy installations. In the first scenario, all the necessary investments are funded completely by internal sources. Hence, the scenario is driven by the assumption that these investments either crowd out investments in other industries of the regional economy or the investments are paid by the government, i.e. by taxes which are borne by all other industries and by the households. The second scenario considers the case of a partly external funding by taking into account that the installations may be demanded from “abroad”, i.e. the rest of Germany and the rest of the world. Therefore, investments in other industries are not completely crowded out.

Some recent studies examine the latter scenario for Germany, assuming that expenditures for renewable energy are “exogenous” (see: O’Sullivan et al., 2012), and generally finding positive employment effects on renewable promotion (often labeled as “gross employment effects”). As this paper shows, the assumption of exogenous expenditures is not an innocent one. Assuming that expenditures for renewables are purely or mainly domestic, production and employment effects become negative. This highlights the importance of assumptions when evaluating renewable policies in general and, in particular, for regional applications, where the regional trade structures (i.e. imports and export to other regions) can strongly influence local competitiveness.

The remainder of the paper is organized as follows. Section 2 briefly describes the concept of input-output tables and then elaborates on the construction of the regional table. Section 3 explains the extension of the regional I-O table by renewable energy sectors and, building on this, evaluates the scenarios described above. Section 4 concludes.

## 2. Construction of an Input-Output Table for Baden-Wuerttemberg

Input-output tables depict in detail the quantitative relationships between the various industrial sectors within an economy and the international dimension by means of export and import flows. A simplified scheme of a typical input-output matrix can be found in Table 1.

**Table 1:** Simplified representation of a typical input-output table in ESA-95 format

		Sectoral inputs		Final use of goods			Total use of goods
		Sector $i$	Sector $j$	Consumption	Investments	Exports	
Inter-mediate inputs	Sector $i$	$z_{i,i}$	$z_{i,j}$	$d_i$	$i_i$	$x_i$	$u_i$
	Sector $j$	$z_{j,i}$	$z_{j,j}$	$d_j$	$i_j$	$x_j$	$u_j$
Primary inputs		$w_i$	$w_j$				
Imports		$m_i$	$m_j$				
Total supply of goods		$s_i$	$s_j$				

Source: Kronenberg (2009), Miller & Blair (1985) and own representation

The most extensive part of the table is taken by the intermediate interrelations represented by coefficient  $z$ . For example,  $z_{ij}$  shows which value of the quantity produced by sector  $i$  is used for the intermediate supply for the production of sector  $j$ . The coefficients in the columns “Final Demand”,  $d$ ,  $i$  and  $x$ , show which output quantity of each sector is used for consumption expenditure (private, government etc.), investment and exports, respectively. The primary inputs  $w$  are the total of the capital and labour inputs

into each sector. The coefficient  $m$  shows which quantity of input of the respective sector is imported. According to economic theory, the supply of goods equals the demand of goods, i.e. for every sector,  $s = u$ . The columns of the input-output table can be interpreted as a Leontief production function, i.e. a production function with fixed ratios between the production factors. The key production factors (labour, capital, materials in terms of intermediate inputs) are listed and their share in the production of one unit of output can be easily calculated. For that we have to assume that every group of goods is homogeneous. This is plausible if the sectoral classification is detailed enough. Ideally, every product should have its own sector which, of course, is not justifiable due to the massive data collection effort that would be needed. Currently, the input-output calculations in Germany contain 71 groups of goods and are published each year by the German Federal Statistical Office (*Statistisches Bundesamt*) with a delay of three to four years.

A survey-based method for the construction of a regional input-output table based on a detailed inquiry of households and companies is very extensive and time-consuming. We suggest an alternative method to derive a regionalized input-output table to examine the impact of renewable energy generation, following Kronenberg (2008, 2009). The major sources are the input-output table of the Federal Republic of Germany from 2006 (Statistisches Bundesamt, 2009a), the data of the *Laufende Wirtschaftsrechnungen* (LWR - Household Budget Surveys) of the Baden-Wuerttemberg Statistical Office (Statistisches Landesamt Baden-Württemberg, 2009) and data provided by the German Federal Agency for Labour (BA, 2006). The method for the construction of the regional table mostly follows Kronenberg (2008, 2009), adjusted to the available data. In the literature on input-output analysis this method is referred to as Supply Demand Pool method or Commodity Balance method, respectively. The applied steps of constructing the regional input-output table for Baden-Wuerttemberg are described below.

## 2.1. Final Demand

The final demand consists of the consumption expenditures of private households, of non-profit private organisations and of the state, as well as of investments, changes in stock, and net acquisitions of values and exports. The private consumption expenditures form the largest share of final demand, except for exports, and therefore, the maximum accuracy in their estimation is of utmost importance. The estimation of the flow of goods is explained in detail below.

The basis of the estimation of private consumption is data from the LWR (Statistisches Landesamt Baden-Württemberg, 2009). The monthly private expenditures for various consumption purposes are displayed in lists of employed and unemployed individuals. The various consumption purposes are displayed in Table 2. By calculating a weighted average of the consumption expenditures of both groups, the shares of consumption per purpose could be determined. A first state-wide extrapolation of the private consumption structured by purpose, could be made through the total consumption expenditures of an average household and the total amount of households. This is displayed together with the extrapolation of the Federal Republic's data (based on the LWR for Germany) in Table 3.

Both Kronenberg (2008) and Lehman (2004) point out that extrapolations based on *Einkommens- und Verbrauchsstichprobe* (EVS – Household Income and Consumption Sample) are mostly below the extrapolations based on the National Accounts. This is due to the conceptually different sampling methods and the various error sources in the surveys. The samples of the LWR are primarily based on the previous EVS and therefore the divergence cannot be eliminated in these estimations.



**Table 2:** Purposes for consumption expenditures

---

Food, beverages, tobacco
Textiles
Rent
Energy
Maintenance
Domestic appliances
Health care
Transport
Telecommunication
Entertainment and culture
Education
Gastronomic services
Other goods and services

---

To minimize this deviation, the first extrapolation has to be adjusted accordingly. To do so, we compare the private consumption expenditures based on the LWR of the Federal Republic of Germany (Statistisches Bundesamt, 2009b) with the expenditures based on the National Accounts of Germany (Statistisches Bundesamt, 2009c). According to this, we can determine the adjustment factors for the Federal level and they are assumed to also apply to Baden-Wuerttemberg. This results in a second extrapolation which considers the described facts, structured by purposes of private consumption expenditures in Baden-Wuerttemberg.

**Table 3:** Extrapolation of the annual private consumption expenditures structured by consumption purposes for Baden-Wuerttemberg and Germany in 2006

---

	mn EUR Baden-Wuertt,	% of total ex- penditures	mn EUR Ger- many	% of total ex- penditures
Food, beverages, tobacco	14,144	13.3	123,595	13.7
Textiles	5,513	5.2	40,050	4.4
Living (rent, energy etc.)	34,803	32.7	294,560	32.7
Domestic appliances	7,738	7.3	55,553	6.2
Health care	4,219	4.0	35,743	4.0
Transport	12,936	12.2	138,237	15.4
Telecommunication	3,007	2.8	26,700	3.0
Entertainment and culture	12,747	12.0	100,340	11.1
Education	659	0.6	6,029	0.7
Gastronomic services	6,074	5.7	45,648	5.1
Other goods and services	4,509	4.2	33,590	3.7

---

Source: LWR and own calculations

The estimated private consumption expenditures, structured by purpose, differ from typical input-output analyses because they are structured by industrial sectors. Therefore, the next step needs to be an estimation of consumption expenditures based on sectors. To do so, a table describing the interrelations of consumption with sectors is used, which is part of the input-output analysis (Statistisches Bundesamt, 2009a). This table assigns the consumption expenditures for the purposes to the various sectors. As this table with 41 purposes is more detailed than the LWR, we have to aggregate the table according to the classification of the LWR. Using this aggregated table, the consumption assignment coefficients can be calculated assuming that the same coefficients apply to Baden-Wuerttemberg as to the Federal Republic of Germany. Kronenberg (2008) describes this method in detail; therefore we waive a detailed exposition here.

Before the estimated private consumption expenditures can be transferred to the input-output table, we have to consider that for the LWR survey the households rate the acquired goods on a purchase price level, i.e. including taxes (minus subsidies), trade and transport costs. The input-output table takes the production costs as a basis. Therefore, we convert the purchase price to the production costs based on a table of production costs with transition to the purchase price, which is also a part of the national input-output table. These steps result in an extrapolation of private consumption expenditures in Baden-Wuerttemberg structured by industrial sectors which can be used for the input-output table for the state. The aggregated form based on the WZ2003 classification can be obtained from Table 4.

**Table 4:** Extrapolation of annual private consumption expenditures structured by industrial sectors for Baden-Wuerttemberg and Germany in 2006

	mn EUR Baden- Wuerttemberg	% of total ex- penditures	mn EUR Ger- many	% of total ex- penditures
Agriculture and forestry	2,478	1.8	15,742	1.4
Fishery	40	0.03	316	0.03
Mining	927	0.7	5,584	0.5
Manufacturing	44,579	31.6	291,401	25.8
Energy and water supply	2,269	1.6	31,636	2.8
Construction	388	0.3	3,377	0.3
Trade and maintenance of vehicles and durable goods	21,349	15.1	198,264	17.6
Gastronomic services	7,989	5.7	57,996	5.1
Transport and telecommunication	6,495	4.6	69,360	6.1
Financial services and insurance	6,948	4.9	79,561	7.0
Dwellings, rental services etc.	31,337	22.2	235,199	20.8
Public services	391	0.3	4,315	0.4
Education	1,235	0.9	11,703	1.0
Health care, social insurance etc.	5,338	3.8	53,721	4.8
Other services	8,278	5.9	65,054	5.8
Services of private households	961	0.7	6,760	0.6

Source: own calculations based on Statistisches Bundesamt (2009a, 2009b, 2009c) and Statistisches Landesamt (2009)

The remaining parts of final demand, i.e. consumption expenditures of private non-profit organisations and the state, as well as investments, changes in stock and net acquisition of values will be estimated to regional data by scaling down the national values. To do so, the National Accounts of the German states (Statistische Ämter, 2009) are used to measure the shares of Baden-Wuerttemberg to the national state consumption, the national investments and the national GDP. To assess the consumption expenditures of private organisations and the state, we take the share of the state consumption. For the investments we take the investment share and for the changes in stock the share in GDP. Thus, we have an estimation to be used for the regional table for all components except for exports.

## 2.2. Production and Intermediate Products

The next step involves the estimation of the intermediate production. As there were no detailed figures about the various productivities of the individual sectors, we refer to data of the Federal Employment Agency (BA, 2006). The data contain the numbers of employees who are subject to compulsory social insurance in Baden-Wuerttemberg structured by the sixteen economic sectors (according to WZ2003 classification). With these numbers we were able to determine the share of employees who are subject to compulsory social insurance of the total of employees in the respective sector on the national level. By using a concordance table, these shares were transferred from the WZ2003 classification to the 71 groups of goods of the input-output analysis (structured by CPA-codes). The computed shares are displayed in

Table 5 for an aggregate sectoral classification. With those shares we estimate the intermediate production of the individual sectors by scaling the according data of the national input-output analysis to the regional data. A more accurate estimation would be possible if the compensations of employees were available on a sectoral basis. Kronenberg (2008) also points out that, according to economic theory, the differences in compensation partly come from differences in productivity. So, the varying productivity between state and national level would be included in the input-output table. As such data were not available for this survey, we referred to the number of employees. Despite the mentioned problems they form a consistent measure for the inclusion of differences in the production structures. This consistency is strengthened by Baden-Wuerttemberg being a state in which almost all groups of goods of the national input-output analysis are produced; also Baden-Wuerttemberg's GDP share of the national GDP is relatively high (about 15%), i.e. German averages of certain indicators are influenced relatively strongly by those of Baden-Wuerttemberg.

**Table 5:** Shares of employees subject to compulsory social insurance (Baden-Wuerttemberg as a share of Germany)

Sector	Baden-Wuerttemberg (no. of employees)	Germany (no. of employees)	Share %
Agriculture, forestry and fishery	22,456	267,867	8.4
Mining	4,993	104,291	4.8
Manufacturing	1,322,471	6,642,561	19.9
Energy and water supply	29,434	249,793	11.8
Construction	192,791	1,466,083	13.2
Trade and maintenance of vehicles and durable goods	519,742	3,957,492	13.1
Gastronomic services	87,734	719,100	12.2
Transport and telecommunication	157,575	1,479,991	10.6
Financial services, insurance	142,587	1,018,472	14.0
Dwellings, rental services etc.	409,019	3,247,022	12.6
Public services	201,577	1,696,183	11.9
Education	107,220	998,029	10.7
Health care, social insurance etc.	401,599	3,139,804	12.8
Other services	131,076	1,215,462	10.8
<b>Total</b>	<b>3,730,607</b>	<b>26,205,969</b>	<b>14.2</b>

Source: own calculations based on BA (2006)

After estimating the intermediate production, the rest of the data concerning the production are estimated. This applies for the sum of intermediate production, employee compensation (i.e. wages), depreciation, the net surplus, the gross value added, and the production value of the individual sectors. We use the share of employees who are subject to compulsory social insurance in Baden-Wuerttemberg to estimate the taxes on goods (minus the subsidies), the depreciation and the net surplus for each sector. The remaining components of the bottom rows in a typical input-output table are the totals of all other values so we estimate them by summing up the individual parts. Therefore, only the estimation of the flows of goods is needed for the completion of the regional input-output table.

### 2.3. Imports and Exports

In the traditional methods of creating regional input-output tables it is assumed that within each group of goods there is either export only or import only. This is measured by examining if the difference of goods supplied and demanded abroad is positive or negative. In reality, it can be observed that in every sector there are exports and imports. This phenomenon is referred to as cross hauling (i.e. intrasectoral trade) in the literature and, according to Kronenberg (2009), this is due to the heterogeneity inside the sector. Though this violates the basic assumption that all goods are homogeneous in input-output analyses, this cannot be ruled out because of the existing sectoral disaggregation. Even when the sectors are classified more detailed, cross hauling can appear, as for example private households have a brand awareness which

always leads to imports and exports. This means that the households in Baden-Wuerttemberg do not only consume goods produced in Baden-Wuerttemberg, but also those produced in other regions and nations. By increasing the number of groups of goods in the classification, the extent of intrasectoral trade might decrease, but it can only be extinguished if every product forms its own sector. This effort, however, cannot be justified.

Kronenberg (2009) introduces the Cross Hauling Adjusted Regionalization Method (CHARM) to remedy this problem. The method estimates heterogeneity within a group of goods and therefore can approximate the extent of cross hauling. Therefore, cross hauling is a function of product heterogeneity and the demand (intermediate and final demand) of the respective sectors. The functional relationship proposed by Kronenberg (2009) is linear, i.e. the sum of production and total demand is proportional to cross hauling and the degree of heterogeneity represents the proportionality factor. The degree of heterogeneity is the ratio of the difference of the trade volume and the absolute value of the trade balance and the sum of the production and total demand. The detailed derivation is documented in Kronenberg (2009). The degree of heterogeneity is estimated through the data of the national input-output table and we assume that the degree of heterogeneity within each sector of Baden-Wuerttemberg is the same as that of Germany. Based on this, we are able to estimate the extent of cross hauling for each sector. We estimate the regional trade volumes of each sector, knowing the trade volume to be the sum of the absolute value of the trade balance and cross hauling. The regional trade balances are the difference of production values and the total demand. Using the definition of the trade volume (equals the sum of imports and exports) and the trade balance (equals the difference of exports and imports), we are able to estimate the regional imports and exports of every sector by using the data calculated previously.

All components of the regional input-output table were estimated and therefore only the total sums of the rows and columns have to be computed, i.e. for the final demand of the goods including exports, the total consumption of goods as well as the total supply of goods. The result is a regional input-output table (in mn euros) for the state of Baden-Wuerttemberg as displayed in the Appendix.‡

### **3. A Regional Climate Policy and Its Effect on Production and Employment**

In this section, we look at the effects of regional climate policy actions on various economic indicators. As an example, we will consider an increase of the share of renewable energy carriers in electricity generation to 20 % until 2020 and an increase of the heat supply share of renewables to 16 % by 2020. These figures were envisaged in a program of the state government of Baden-Wuerttemberg from 2009 (*Energiekonzept 2020*). We will analyze in particular the production and employment effects in an input-output framework. Therefore, we have to include different renewable energy types into the input-output table. The first step for doing that is the extension of the regionalized input-output table by various types of renewable energy.

After creating a regionalized input-output table for the German state of Baden-Wuerttemberg, we introduce renewable energy sources as sectors of the input-output system. This means, in particular, that we do not include completely new sectors in the state's economy, but split the existing energy sector into several different energy subsectors, namely wind, solar PV, solar thermal, hydropower, biomass, biogas and geothermal power. To represent investment and employment incentives in the field of renewable energies in Baden-Wuerttemberg in detail, it is necessary to distinguish between the production of the equipment and its operation.

---

‡ The input-output table is in German since the underlying database (i.e. the German input-output table) was published by the German Federal Statistical Office. Therefore, a translation including the involved sectors and other terms appearing in the table are translated subsequently.

For the disaggregation of the energy sector we need detailed information on the produced amount of energy of each single energy sector to depict the supply side of the I-O table. In this way, we can determine the value of energy that is provided by the various energy types to the economy as a whole. In the analysis of investment and employment effects of renewable energies, especially the use side of the I-O table is important. Information on goods and services which are necessary for the construction and operation of a specific installation has to be provided. With this information we can draw conclusions on how single energy sectors influence macroeconomic indicators.

We will thus initially include 14 new columns and rows, two for each energy type (construction and operation). For the construction of installations solely intermediate goods from other sectors are used. However, an installation does not produce any output, i.e. energy, at this stage. For the operation of the plants inputs for both their maintenance and the replacement of single components are consumed. At this stage, energy which can be supplied to the economy is produced.

Now the question arises in what way installations for energy generation have to be separated from installations for energy distribution. According to the *German Law for Electricity and Gas Supply* (EnWG), energy generation and energy distribution have to be strictly separated. Also from a theoretical viewpoint there are good reasons to do such a separation since a single power plant does not provide energy for a specific consumer. Therefore, we introduce an additional sector “energy distribution” in the input-output system. The energy sectors supply the complete amount of produced energy to that sector and this sector provides the energy to the market.

This approach is also used in the theoretical literature. Gay and Proops (1993), Proops et al. (1993) and Cruz (2002) use the disaggregation scheme described above. However, in the previous studies energy sectors were often disaggregated only qualitatively. It was assumed that the inputs required for energy generation were the same for all types of energy. Yet it is clear that, for instance, the operation of a biomass power plant uses different intermediate inputs than a coal power plant. In this study, however, we use technology-specific inputs. Hence, we can reduce the number of assumptions and obtain more detailed results regarding macroeconomic effects.

The following steps are necessary to include new sectors into the regionalized input-output framework:

- Coverage of inputs and outputs of the new sectors on a value basis.
- Implementation of an energy distribution sector into the input-output table.
- Modeling of the supply side: Subtraction of the value of energy produced from renewable energy from the value of conventional energy.
- Modeling of the demand side: Balancing of the goods and services required for the construction of installations for renewable energy and its generation.

### 3.1. Situation in 2008

In a first step, we will examine the significance of renewable energy regarding the effects on employment and investment. An important point to consider is the turnover of the different energy types which is summarized in Table 6. The numbers are taken from the regionalized and extended input-output table. Since the I-O table describes the situation in 2006, we used the inflation rate to obtain 2008 values.<sup>§</sup> The GDP of Baden-Wuerttemberg has a value of approximately 780 billion euros, according to the regionalized input-output table. The data on the turnover of the renewable energy types as shown below stem from Bickel et al. (2009).

---

<sup>§</sup> The German I-O table of 2008 is not present yet.

**Table 6:** Turnover of different renewable energy types in Baden-Wuerttemberg (construction and operation)

	Turnover (mn €)
Construction wind	352
Construction solar PV	708
Construction solar thermal	158
Construction hydropower	139
Construction biomass	153
Construction biogas	42
Construction geothermal	60
Operation wind	21
Operation solar PV	82
Operation solar thermal	26
Operation hydropower	62
Operation biomass	97
Operation biogas	71
Operation geothermal	28

Source: Bickel et al. (2009)

Furthermore, data on regional employment in the different sectors are depicted in Table 5. With these numbers we can construct sectoral “employment coefficients” indicating the number of employees required for a turnover of 1 million euros. They are shown in Table 7. With these coefficients we can compute sector-specific employment effects.

**Table 7:** Employment coefficients in Baden-Wuerttemberg, Employees per mn euros of turnover

Sector	Employees per mn euros of turnover
Agriculture, forestry and fishery	3.50
Mining	1.00
Manufacturing	3.47
Energy and water supply	2.31
Construction	6.94
Trade and maintenance of vehicles and durable goods	9.82
Gastronomic services	8.93
Transport and telecommunication	4.58
Financial services, insurance	4.31
Dwellings, rental services etc.	4.14
Public services	8.92
Education	7.41
Health care, social insurance etc.	14.44
Other services	6.22

In the following, we will compare the actual situation with a hypothetical scenario in which no renewable energy types exist in order to have a reference for the current state of the art regarding the effects of investments in renewable energy sources. Therefore, the demand for products from the renewable energy sectors is assumed to equal zero. In this way, no feedback effects from the renewable sectors to other sectors are possible. Following that we can compute the total use of the different sectors under the hypothetical scenario. We then calculate the difference between the actual situation (including renewable energy) and the hypothetical situation (without renewable energy) and obtain gross turnover effects caused by the construction and operation of renewable energy installations. The results are shown in Table 8.

**Table 8:** Turnover and employment effects induced by renewable energy in Baden-Wuerttemberg in the reference year 2008

Sector	Additional turnover (mn €)	Employment effects (no. of jobs)
Agriculture, forestry and fishery	11.1	39
Mining	17.2	17
Manufacturing	1,207.6	4,193
Energy and water supply	2,107.1	6,743
Construction	26.5	184
Trade and maintenance of vehicles and durable goods	97.5	957
Gastronomic services	9.2	82
Transport and telecommunication	84.5	387
Financial services, insurance	118.2	510
Dwellings, rental services etc.	357.4	1,481
Public services	20.8	186
Education	10.9	81
Health care, social insurance etc.	8.6	125
Other services	31.7	197
<b>Total</b>	<b>4,108.5</b>	<b>15,182</b>

**Table 9:** Partial employment effects induced by renewable energy sectors in Baden-Wuerttemberg (Reference year: 2008)

Energy type (construction and operation)	Employment effect (no. of jobs)
Construction wind	2,377
Construction solar PV	4,724
Construction solar thermal	1,089
Construction hydropower	943
Construction biomass	1,052
Construction biogas	298
Construction geothermal	421
Operation wind	230
Operation solar PV	910
Operation solar thermal	290
Operation hydropower	695
Operation biomass	1,078
Operation biogas	787
Operation geothermal	312
<b>Total</b>	<b>15,206</b>

The comparison between both situations shows a gross effect for total turnover of 4.1 billion euros. The direct effects can be computed through the turnover values in the extended input-output table and amount to approximately 2 billion euros. The value of indirect effects – via the increased demand for intermediate products – is approximately 2.1 billion euros. The gross employment effects amount to ca. 15,000 jobs of which the energy supply sector accounts for 6,700 jobs. Also in the manufacturing industries, we see that more than 4,000 jobs can be induced by renewable energies (in a consideration of gross effects). Table 9 displays partial employment effects induced by each of the considered sectors for renewable energies.

### 3.2. Scenarios: Effects of a Regional Climate Policy

In this section we analyze future effects of a regional climate policy. The state of Baden-Wuerttemberg plans to achieve a 20% share of renewables in energy production by 2020. The turnover values are based on the assumption that the construction and operation of renewable energy installations happens to the full extent, i.e. the goal of 20% can be accomplished. Before presenting the results of our calculations, we have to point out their basis and the limitations of the approach. We assume that the structure of the regional economy remains constant, in principle, until the year 2020. Since this is a relatively short time frame this assumption seems plausible. In particular, this means that the technological conditions do not change substantially. A second issue regarding the input-output framework is that price changes are excluded, i.e. all results are presented in 2008 prices. We can then examine how an exogenous demand shock affects the regional economy.

An important issue is the distinction between gross and net (employment) effects. Gross effects occur if we assume that only the benefits of an increased demand are considered without accounting for their costs, i.e. the investments in renewable energy sources are completely financed by external sources outside the regional economy. If those investments are subsidized by the state government, the construction and operation of installations have to be financed by taxes. Furthermore, if those investments are financed by private institutions, crowding out effects occur, i.e. investments in other sectors will decrease. We will first present the gross effects and subsequently discuss possible net effects. The calculation of gross employment and investment effects is carried out similarly as described in Subsection 2.1 above. We use turnover values for the different energy types to determine the demand in the energy sectors and compute the total use of all sectors in the input-output framework. Following that, we can calculate the differences between the altered and the original use vectors yielding the gross turnover effects. Using the employment coefficients from Table 7, we can then detect gross effects on the labour market. Table 10 summarizes the results of this calculation.

**Table 10:** Gross turnover and employment effects induced by the regional climate policy in Baden-Wuerttemberg until 2020

Sector	Additional turnover (mn €)	Employment effects (no. of jobs)
Agriculture, forestry and fishery	75.4	264
Mining	63.7	64
Manufacturing	8,376.2	29,085
Energy and water supply	16,127.0	46,689
Construction	191.3	1,327
Trade and maintenance of vehicles and durable goods	498.1	4,890
Gastronomic services	30.4	272
Transport and telecommunication	525.9	2,409
Financial services, insurance	1,473.8	6,357
Dwellings, rental services etc.	2,373.3	9,831
Public services	131.6	1,173
Education	35.9	266
Health care, social insurance etc.	2.0	29
Other services	199.6	1,242
<b>Total</b>	<b>30,104.4</b>	<b>103,898</b>

The total gross turnover effect amounts to approximately 31 billion euros until 2020. Compared to the GDP of Baden-Wuerttemberg (ca. 780 billion euros), this implies a weight of almost 4% induced by renewable energies. The gross effect on the labour market amounts to ca. 105,000 jobs. In the energy sector,



we observe direct gross effects of 16 billion euros of turnover and 47,000 jobs, respectively. Indirect effects – induced by an increased demand for intermediate products – amount to 15 billion euros and 58,000 jobs, respectively. Table 11 displays partial employment effects which are induced by each energy type.

**Table 11:** Partial gross employment effects induced by the regional climate policy in Baden-Wuerttemberg until 2020

<b>Energy type (construction and operation)</b>	<b>Employment effect (no. of jobs)</b>
Construction wind	2,132
Construction solar PV	16,701
Construction solar thermal	16,831
Construction hydropower	3,732
Construction biomass	6,007
Construction biogas	4,034
Construction geothermal	5,846
Operation wind	2,201
Operation solar PV	12,391
Operation solar thermal	4,521
Operation hydropower	5,481
Operation biomass	10,437
Operation biogas	8,958
Operation geothermal	4,629
<b>Total</b>	<b>103,901</b>

After computing gross effects of the regional renewable goals, we will now shortly discuss how to deal with the fact that investments in renewables may crowd out other investments if they are not funded externally. Hence, we come up with a possible treatment of net employment effects. Therefore, we assume that the costs for future investments in renewable energy types are borne completely by the economy of Baden-Wuerttemberg. That means all other sectors pay for those investments either by taxes or by crowding out effects. We will thus debit all sectors apart from the renewable energy sectors to the amount of the total investments in renewables for the period from 2009 to 2020. Thereby, every sector is debited according to its weight in Baden-Wuerttemberg’s economy such that these debits sum up to the total of investments in the renewable energy sources. Table 12 shows the net turnover and employment effects under this assumption. In sum, there is a small positive net turnover effect. However, net employment effects are negative. This is due to a higher labour intensity, e.g. in the service sectors, whereas sectors such as manufacturing and energy have a relatively low labour intensity.

A possible way to obtain positive employment effects is to increase the demand by means of exports – from the rest of Germany and the rest of the world. In this way, the investments in renewable energy types in Baden-Wuerttemberg would be financed by external sources and would thus neither crowd out completely other investments nor entirely have to be financed by taxes in Baden-Wuerttemberg. The results of a scenario assuming funding by external sources, i.e. the renewable energy installations are partly exported to the rest of Germany and the rest of the world and do thus not crowd out completely other investments, are summarized in Table 14. Exports of renewable equipment are assumed to be EUR 3,597 million in 2020, as proposed by Bickel et al. (2009), see Table 13. This would represent a world market share of Baden-Württemberg of roughly 1%, based on Energy Watch Group (2008).

**Table 12:** Net turnover and employment effects induced by the regional climate policy in Baden-Wuerttemberg until 2020, internal funding

<b>Sector</b>	<b>Additional turnover (mn €)</b>	<b>Employment effects (no. of jobs)</b>
Agriculture, forestry and fishery	-197.7	-693
Mining	-129.1	-129
Manufacturing	-5534.2	-19,217
Energy and water supply	15,719.9	45,748
Construction	-847.1	-5,878
Trade and maintenance of vehicles and durable goods	-1,451.1	-14,245
Gastronomic services	-348.6	-3,111
Transport and telecommunication	-758.8	-3,475
Financial services, insurance	276.1	1,191
Dwellings, rental services etc.	-1,468.3	-6,082
Public services	-707.2	-6,306
Education	-498.8	-3,696
Health care, social insurance etc.	-1,024.1	-14,788
Other services	-589.2	-3,666
<b>Total</b>	<b>2,441.9</b>	<b>-34,347</b>

**Table 13:** Assumed export turnover for renewable equipment in Baden-Württemberg

	<b>Export Turnover (mn €)</b>
Construction wind	1,440
Construction solar PV	1,520
Construction solar thermal	12
Construction hydropower	280
Construction biomass	300
Construction biogas	23
Construction geothermal	22

Source: Bickel et al. (2009)

We observe positive turnover and employment effects due to the fact that the required investment is partly funded through exports of renewable equipment. Hence, we see that the program may induce additional turnover and additional jobs in all sectors in the state of Baden-Wuerttemberg. However, to accomplish these goals, the demand from abroad (including the rest of Germany) has to be high enough.

Although numerous studies exist which examine employment and production effects of renewable energy promotion using the same or a similar methodological framework as in this study, it is relatively difficult to compare their results. This is due to two reasons. First, to our knowledge this is the first study to analyze these effects on a regional basis. Secondly, previous studies show different approaches, outcomes and assessments with respect to the direction and the magnitude of the production and employment effects.

A study published by the German Ministry for the Environment (BMU, 2006) finds positive gross and net employment and production effects. It states that the promotion of renewable energies can create up to 56,000 new jobs in Germany in terms of net values and 250,000 new jobs in terms of gross values, i.e. within the renewable energy sector. The latter number is roughly supported by O'Sullivan et al. (2009, 2012).

**Table 14:** Net turnover and employment effects induced by the regional climate policy in Baden-Wuerttemberg until 2020, external funding by exporting

<b>Sector</b>	<b>Additional turnover (mn €)</b>	<b>Employment effects (no. of jobs)</b>
Agriculture, forestry and fishery	1.3	4
Mining	13.8	12
Manufacturing	1,816.9	6,309
Energy and water supply	3,633.5	12,573
Construction	37.8	262
Trade and maintenance of vehicles and durable goods	133.9	1,314
Gastronomic services	8.2	73
Transport and telecommunication	102.0	467
Financial services, insurance	91.7	395
Dwellings, rental services etc.	573.6	2,376
Public services	12.8	114
Education	6.9	51
Health care, social insurance etc.	0.4	5
Other services	39.9	248
<b>Total</b>	<b>6,470.5</b>	<b>24,205</b>

However, this study only concentrates on gross employment effects and thus neglects the fact that investments in renewable energy may crowd out investments in other sectors. Furthermore, as shown in our calculations above, the outcomes for net employment and turnover effects depend crucially on the assumptions how the investments in renewable energy are funded (internally or externally via exports). The assumptions on exports of renewable energy equipment in BMU (2006) are, however, relatively optimistic. The study does not exclude that net employment effects might be negative if the export developments do not turn out to be as optimistic as assumed. More recently, a report published by the German Ministry for the Environment (BMU, 2009) accounts for negative budget and income effects which can arise through the promotion of renewable energy.

On the other hand, a study by RWI (2009) challenges the results of the studies named above. The authors emphasize negative implications for economic welfare induced by the promotion of renewable energy. Namely, they call attention to negative employment effects in the conventional energy sector and to a reduction of economic activity which arises through higher electricity prices induced by subsidies for renewable energy and/or crowding out of other investments. Similar results are found by IWH (2004), Fahl et al. (2005), Pfaffenberger (2006) and Hillebrand et al. (2006). Hillebrand et al. (2006) accentuate that positive net employment effects can be expected initially. Yet these effects decrease and can be negative after investments decline while electricity prices remain high.

The contribution of this study is the consideration of regional aspects of potential climate policies. Furthermore, we report detailed turnover and employment effects on a sectoral basis. The example of Baden-Wuerttemberg was chosen because a high share of production and employment in this state is generated in the manufacturing industries. To our knowledge, this study is the first attempt to analyze this concrete subject for a specific region. With respect to the results, in particular in comparison to the previous studies referred to above, it appears that the direction and size of production and employment effects are influenced to a high degree by the sources that fund investments in renewable energies. In the case of high external funding, our results are in line with outcomes of those studies predicting high positive net employment effects – given the relative size of Baden-Wuerttemberg’s economy compared to the German economy and the fact that Baden-Wuerttemberg’s manufacturing industries have a large share within

Germany. However, it is extremely questionable that all investments can be funded through exports – neither from the rest of Germany nor from the rest of the world. Furthermore, more recent developments show that, in the solar PV industry, intermediate products are even imported, principally from China and Japan (RWI, 2009).

#### 4. Conclusions

The analysis of a regional climate policy in the German state of Baden-Wuerttemberg shows that its impacts are ambiguous. It depends on the sources which fund the investments in the installations and the operation of renewable energy. In the case of a completely internal funding, total employment effects are negative, whereas the production effects are positive but small in size. This is due to crowding out effects of investments in other sectors as the money spent on investments in renewable energies cannot be spent on other investments. Thus, we rather observe a structural change of the economy: jobs are created within the renewable energy sector but are lost in other industries. However, in an export-oriented economy, the funding of the required investments comes from external sources as those installations are demanded from abroad, i.e. from the rest of Germany and the rest of the world. In this case other investments are not crowded out completely and jobs as well as additional turnover may be created within the whole economy of Baden-Wuerttemberg through the demand from the renewable energy sectors for intermediate products from other sectors.

#### Acknowledgements

The authors are grateful to Peter Bickel for providing useful data for the extension of the input-output table and to Andreas Löschel and Tobias Kronenberg for their valuable scientific advice. Funding by the Ministry of the Environment in Baden-Wuerttemberg as well as the European Commission, Directorate-General for Research and Innovation under the project “The Integration of Mainstream Economic Indicators with Sustainable Development Objectives (IN-STREAM)” is gratefully acknowledged.

#### References

- BA (2006). *Arbeitsmarkt in Zahlen – Beschäftigung in Deutschland: Monatszahlen nach Ländern und wirtschaftsfachlicher Gliederung*. Statistik der Bundesagentur für Arbeit, Nürnberg.
- Bickel, P., Püttner, A., Kelm, T. (2009). Verbesserte Abschätzung des in Baden-Württemberg wirksamen Investitionsimpulses durch Förderung Erneuerbarer Energien, Zentrum für Sonnenenergie- und Wasserstoff-Forschung (ZSW), Stuttgart.
- BMU (2006). Erneuerbare Energien: Arbeitsplatzeffekte, Wirkungen des Ausbaus erneuerbarer Energien auf den deutschen Arbeitsmarkt, Kurz- und Langfassung, Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, Berlin.
- BMU (2009). Umweltwirtschaftsbericht 2009, Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, Berlin.
- Cruz, L.M.G. (2002). Energy-Environment-Economy Interactions: An Input Output Approach Applied to the Portuguese Case. Paper for the 7<sup>th</sup> Biennial Conference of the International Society for Ecological Economics, Sousse, Tunisia, March 2002.
- Energy Watch Group (2008). Renewable Energy Outlook 2030. Berlin, November 2008.
- Fahl, U., Küster, R., Ellersdorfer, I. (2005). Jobmotor Ökostrom? Beschäftigungseffekte der Förderung von erneuerbaren Energien in Deutschland. *Energiewirtschaftliche Tagesfragen* 55 (7), 476-481.
- Gay, P. and Proops, J. (1993). Carbon Dioxide Production by the UK Economy: An Input Output Assessment. *Applied Energy* 44, 113-130.
- Hillebrand, B., Buttermann, H.-G., Bleuel, M., Behringer, J.-M. (2006). The Expansion of Renewable Energies and Employment Effects in Germany. *Energy Policy* 34 (18), 3484-3494.

- IWH (2004). Beschäftigungseffekte durch den Ausbau Erneuerbarer Energien. Steffen Hentrich, Jürgen Wiemers, Joachim Ragnitz. Sonderheft 1/2004, Institut für Wirtschaftsforschung Halle, Halle.
- Kronenberg, T. (2008). *Erstellung einer Input-Output-Tabelle für Mecklenburg-Vorpommern*. Forschungszentrum Jülich, Institut für Energieforschung – Systemforschung und Technologische Entwicklung (IEF-STE), STE Preprint 17/2008.
- Kronenberg, T. (2009). *Construction of Regional Input-Output Tables Using Nonsurvey Methods: The Role of Cross-Hauling*. International Regional Science Review 32, 40-64.
- Lehmann, H. (2004). *Die Modellierung der Konsumausgaben privater Haushalte: Auf der Grundlage repräsentativer Einkommens- und Verbrauchsstatistiken*. Schriften des Instituts für Wirtschaftsforschung Halle, Band 16, Nomos Verlagsgesellschaft, Baden-Baden.
- O’Sullivan, M., Edler, D., Ottmüller, M., Lehr, U. (2009). Gross Employment from Renewable Energy in Germany in the Year 2008 – A First Estimate, March 2009, Berlin.
- O’Sullivan, M., Edler, D., Nieder, T., Rütter, T., Lehr, U., Peter, F. (2012). Bruttobeschäftigung durch erneuerbare Energien in Deutschland im Jahr 2011 – eine erste Abschätzung, March 2012, Berlin.
- Pfaffenberger, W. (2006). Wertschöpfung und Beschäftigung durch grüne Energieproduktion? Energiewirtschaftliche Tagesfragen 56 (9), 22-26.
- Proops, J., Faber, M., Wagenhals, G. (1993). Reducing CO2 Emissions – A Comparative Input Output Study for Germany and the UK. Springer-Verlag, Berlin.
- RWI (2009). Die ökonomischen Wirkungen der Förderung Erneuerbarer Energien: Erfahrungen aus Deutschland – Endbericht, Rheinisch-Westfälisches Institut für Wirtschaftsforschung, Essen.
- Statistisches Bundesamt (2009a). *Volkswirtschaftliche Gesamtrechnungen, Input-Output-Rechnung 2006, Fachserie 18, Reihe 2*. Wiesbaden.
- Statistisches Bundesamt (2009b). *Laufende Wirtschaftsrechnungen – Konsumausgaben privater Haushalte*. <http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Content/Statistiken/WirtschaftsrechnungenZeitbud-gets/LaufendeWirtschaftsrechnungen/Tabellen/Content75/KonsumausgabenGebietsstaende.templateId=renderPrint.psm>
- Statistisches Bundesamt (2009c). *Volkswirtschaftliche Gesamtrechnungen – Private Konsumausgaben und Verfügbares Einkommen, Beibefz zur Fachserie 18, 1. Vierteljahr 2009*. Wiesbaden.
- Statistisches Landesamt Baden-Württemberg (2009). *Laufende Wirtschaftsrechnungen – Private Haushalte in Baden-Württemberg, Konsumausgaben*. [http://www.statistikportal.de/VolkswPreise/Haushalte/LWR\\_Konsum.asp](http://www.statistikportal.de/VolkswPreise/Haushalte/LWR_Konsum.asp)
- Statistische Ämter (2009). Volkswirtschaftliche Gesamtrechnungen der Länder: Entstehung, Verteilung und Verwendung des Bruttoinlandsprodukts in den Ländern und Ost-West-Großraumregionen Deutschlands 1991 bis 2008, Reihe 1, Länderergebnisse Band 5. Statistisches Landesamt Baden-Württemberg.

## Appendix

The appendix includes the resulting input-output table for the German state of Baden-Wuerttemberg. The complete table is available on request from the authors as a Microsoft Excel file.

No.	CPA	Demand Supply	Agricultural products and products of hunting	Products and services of forestry and logging	Fish and other fishing products	Coal and lignite; peat	Crude oil, natural gas, extraction services thereof
			No. 1	2	3	4	5
			CPA 01	02	05	10	11
1	01	Agricultural products and products of hunting	578	6			
2	02	Products and services of forestry and logging		50			
3	05	Fish and other fishing products			4		
4	10	Coal and lignite; peat	1			22	
5	11	Crude oil, natural gas, extraction services thereof	2				8
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products	13	0	0	0	
9	15.1 - 15.8	Food products	702				
10	15.9	Beverages	0				
11	16	Tobacco products					
12	17	Textiles	5	0	10		
13	18	Wearing apparel	1	1		1	
14	19	Leather and leather products	4	0		1	0
15	20	Wood and products of wood and cork (excl. furniture)	15	1	0	5	0
16	21.1	Pulp, paper and paperboard	3	0		1	
17	21.2	Articles of paper and paperboard	4	0		1	1
18	22.1	Books, newspapers and other printed matter and recorded media	2	1		1	
19	22.2 - 22.3	Printing services; reproduction services of recorded media	6	1	0	3	0
20	23	Coke, refined petroleum products	157	9	1	4	
21	24.4	Pharmaceuticals	56				
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	540	8	0	16	1
23	25.1	Rubber products	18	1		13	
24	25.2	Plastic products	16	2		7	0
25	26.1	Glass and glass products	32			4	
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)	42	5		6	
27	27.1. - 27.3	Basic iron, steel, tubes and semifinished products thereof	5	1		24	8
28	27.4	Nonferrous metals and semifinished products thereof	1			5	0
29	27.5	Foundry work services	10			1	
30	28	Fabricated metal products	50	7	1	76	12
31	29	Machinery and equipment	149	14	0	179	37
32	30	Office machinery and computers	1			0	0
33	31	Electrical machinery and apparatus nec	10	1		7	3
34	32	Radio, television and communication equipment and apparatus					
35	33	Medical, precision and optical instruments; watches and clocks	0				0
36	34	Motor vehicles	34	1		5	
37	35	Other transport equipment					
38	36	Furniture; other manufactured goods	0				
39	37	Secondary raw materials					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	71	1	1	49	5
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	6			2	
42	41	Collected and purified water, distribution of water	36	0	0	4	
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	14	2	0	8	1
44	45.3 - 45.5	Building installation and completion works	14	2	0	9	0
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	51	2	0	1	0
46	51	Wholesale trade (excl. vehicles)	274	12	3	30	4
47	52	Retail trade (excl. vehicles)	9	1	1	3	0
48	55	Hotel and restaurant services	1	0	0	1	1
49	60.1	Railway transportation services	0	0		0	7
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	11	2		0	3
51	61	Water transport services	3		3		0
52	62	Air transport services	3	0		1	6
53	63	Supporting and auxiliary transport services	3	0	0		
54	64	Post and telecommunication services	7	2		3	4
55	65	Financial intermediation services	120	7	0	3	3
56	66	Insurance services, except compulsory social security services	41	1	0	2	2
57	67	Services auxiliary to financial intermediation					
58	70	Real estate services	38	2	0	28	5
59	71	Renting services of machinery and eq. (without personal services)	265	8		7	6
60	72	Computer and related services	1	0		0	1
61	73	Research and development services					
62	74	Other business services	336	19	0	30	41
63	75.1 - 75.2	Administration services of the state, defence services	13	4	0	6	3
64	75.3	Compulsory social security services					
65	80	Education services	5	0	0	0	1
66	85	Health and social work services	55				
67	90	Sewage and refuse disposal services, sanitation	29	1	0	15	
68	91	Membership organization services nec	7	0	0	4	0
69	92	Recreational, cultural and sporting services					
70	93	Other services	7	0		2	1
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	3883	179	27	589	165

No.	CPA	Demand Supply	Uranium and thorium ores	Metal ores	Other mining and quarrying products	Food products	Beverages
			No.	7	8	9	10
			CPA	12	13	14	15.1 - 15.8
1	01	Agricultural products and products of hunting				2339	39
2	02	Products and services of forestry and logging			2		
3	05	Fish and other fishing products				19	
4	10	Coal and lignite; peat			1	2	0
5	11	Crude oil, natural gas, extraction services thereof			2	22	2
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products			81	13	
9	15.1 - 15.8	Food products				4886	241
10	15.9	Beverages				30	315
11	16	Tobacco products					
12	17	Textiles				5	1
13	18	Wearing apparel			0	2	0
14	19	Leather and leather products			1		
15	20	Wood and products of wood and cork (excl. furniture)			4	21	13
16	21.1	Pulp, paper and paperboard			6	34	5
17	21.2	Articles of paper and paperboard			23	392	52
18	22.1	Books, newspapers and other printed matter and recorded media			1	10	3
19	22.2 - 22.3	Printing services; reproduction services of recorded media			4	32	10
20	23	Coke, refined petroleum products			22	88	18
21	24.4	Pharmaceuticals				3	2
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)			18	224	60
23	25.1	Rubber products			2	12	2
24	25.2	Plastic products			1	252	96
25	26.1	Glass and glass products			0	60	65
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)			3		
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof			8	14	2
28	27.4	Nonferrous metals and semifinished products thereof			0	7	1
29	27.5	Foundry work services			0		1
30	28	Fabricated metal products			18	141	63
31	29	Machinery and equipment			36	139	22
32	30	Office machinery and computers			2	9	3
33	31	Electrical machinery and apparatus nec			4	9	1
34	32	Radio, television and communication equipment and apparatus					
35	33	Medical, precision and optical instruments; watches and clocks			3	12	3
36	34	Motor vehicles			4	10	3
37	35	Other transport equipment					
38	36	Furniture; other manufactured goods			0	0	0
39	37	Secondary raw materials					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof			43	194	29
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains			4	44	11
42	41	Collected and purified water, distribution of water			4	39	13
43	45.1 - 45.2	Site preparation work, building construction and civil engineering			4	15	4
44	45.3 - 45.5	Building installation and completion works			2	24	7
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels			7	29	5
46	51	Wholesale trade (excl. vehicles)			17	1003	91
47	52	Retail trade (excl. vehicles)			1	112	12
48	55	Hotel and restaurant services			0	8	2
49	60.1	Railway transportation services			5	0	0
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines			30	153	18
51	61	Water transport services			14	5	0
52	62	Air transport services			4	16	5
53	63	Supporting and auxiliary transport services			2	300	19
54	64	Post and telecommunication services			4	39	7
55	65	Financial intermediation services			11	161	25
56	66	Insurance services, except compulsory social security services			5	40	6
57	67	Services auxiliary to financial intermediation					
58	70	Real estate services			17	230	48
59	71	Renting services of machinery and eq. (without personal services)			29	125	38
60	72	Computer and related services			1	8	4
61	73	Research and development services					
62	74	Other business services			89	1064	399
63	75.1 - 75.2	Administration services of the state, defence services			10	43	9
64	75.3	Compulsory social security services					
65	80	Education services			1	20	3
66	85	Health and social work services				2	0
67	90	Sewage and refuse disposal services, sanitation			9	68	5
68	91	Membership organization services nec			2	19	3
69	92	Recreational, cultural and sporting services				8	15
70	93	Other services			4	15	3
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)			566	12570	1804

No.	CPA	Demand Supply	Tobacco	Textiles	Wearing	Leather	Wood and
			products		apparel	and leather	products of
			11	12	13	14	15
		No. CPA	16	17	18	19	20
1	01	Agricultural products and products of hunting	34	16	1		
2	02	Products and services of forestry and logging					137
3	05	Fish and other fishing products					
4	10	Coal and lignite; peat	0	1		0	0
5	11	Crude oil, natural gas, extraction services thereof	0	3	0	0	2
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products					
9	15.1 - 15.8	Food products	0	3		4	
10	15.9	Beverages					
11	16	Tobacco products	20				
12	17	Textiles	0	564	458	7	1
13	18	Wearing apparel		0	347		
14	19	Leather and leather products		0		164	
15	20	Wood and products of wood and cork (excl. furniture)	5	2	1	2	1196
16	21.1	Pulp, paper and paperboard	5	7	4	3	6
17	21.2	Articles of paper and paperboard	46	27	14	20	8
18	22.1	Books, newspapers and other printed matter and recorded media	3	2	3	0	1
19	22.2 - 22.3	Printing services; reproduction services of recorded media	2	14	17	3	12
20	23	Coke, refined petroleum products	2	7	4	2	24
21	24.4	Pharmaceuticals					
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	6	477	23	52	398
23	25.1	Rubber products	0	2	11	0	5
24	25.2	Plastic products	5	17	8	2	19
25	26.1	Glass and glass products			0		68
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)		35	0	1	4
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof					6
28	27.4	Nonferrous metals and semifinished products thereof	1		1		
29	27.5	Foundry work services					
30	28	Fabricated metal products	1	6	16	9	46
31	29	Machinery and equipment	6	44	9	3	13
32	30	Office machinery and computers	0	1	1		5
33	31	Electrical machinery and apparatus nec	0	3	2	0	1
34	32	Radio, television and communication equipment and apparatus					
35	33	Medical, precision and optical instruments; watches and clocks			0		
36	34	Motor vehicles					2
37	35	Other transport equipment					
38	36	Furniture; other manufactured goods		0	6		1
39	37	Secondary raw materials		3			
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	4	50	12	5	51
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	1	9	1	1	4
42	41	Collected and purified water, distribution of water	0	4	1	0	2
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	0	2	1	0	3
44	45.3 - 45.5	Building installation and completion works	1	4	3	1	5
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	1	2	1	0	12
46	51	Wholesale trade (excl. vehicles)	14	79	105	40	195
47	52	Retail trade (excl. vehicles)	1	9	27	9	19
48	55	Hotel and restaurant services	0	2	1	0	1
49	60.1	Railway transportation services		0	0		0
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	3	4	2	1	27
51	61	Water transport services		1	1	0	0
52	62	Air transport services	4	7	2	0	8
53	63	Supporting and auxiliary transport services		5	1	0	11
54	64	Post and telecommunication services	1	7	4	1	9
55	65	Financial intermediation services	6	16	7	0	31
56	66	Insurance services, except compulsory social security services	2	1	1	0	14
57	67	Services auxiliary to financial intermediation					
58	70	Real estate services	8	27	11	2	42
59	71	Renting services of machinery and eq. (without personal services)	2	3	2	1	50
60	72	Computer and related services	1	1	1	0	3
61	73	Research and development services					
62	74	Other business services	115	73	34	9	77
63	75.1 - 75.2	Administration services of the state, defence services	4	3	2	2	9
64	75.3	Compulsory social security services					
65	80	Education services	1	2	1	1	4
66	85	Health and social work services					
67	90	Sewage and refuse disposal services, sanitation	0	2	1	1	11
68	91	Membership organization services nec	0	3	1	0	2
69	92	Recreational, cultural and sporting services	9				
70	93	Other services	1	1	1	0	10
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	316	1548	1151	348	2553



No.	CPA	Demand Supply	Supply					
			No. CPA	16 21.1	17 21.2	Books, newspaper s and other printed matter and recorded media 18 22.1	Printing services; reproductio n services of recorded media 19 22.2 - 22.3	Coke, refined petroleum products 20 23
1	01	Agricultural products and products of hunting						
2	02	Products and services of forestry and logging	35					
3	05	Fish and other fishing products						
4	10	Coal and lignite; peat	3	0				25
5	11	Crude oil, natural gas, extraction services thereof	17	2	0		2	1752
6	12	Uranium and thorium ores						
7	13	Metal ores						
8	14	Other mining and quarrying products	2					0
9	15.1 - 15.8	Food products						
10	15.9	Beverages						
11	16	Tobacco products						
12	17	Textiles		3	0	0	0	0
13	18	Wearing apparel						
14	19	Leather and leather products						0
15	20	Wood and products of wood and cork (excl. furniture)	41	3			1	
16	21.1	Pulp, paper and paperboard	927	822	40		628	0
17	21.2	Articles of paper and paperboard	20	552	3		36	0
18	22.1	Books, newspapers and other printed matter and recorded media	1	1	213		1	3
19	22.2 - 22.3	Printing services; reproduction services of recorded media	5	51	624		651	4
20	23	Coke, refined petroleum products	10	6	15		6	2139
21	24.4	Pharmaceuticals						
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	243	81	10		135	34
23	25.1	Rubber products	0	0			0	3
24	25.2	Plastic products	15	113	0		12	5
25	26.1	Glass and glass products	8					
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)						1
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof		7				1
28	27.4	Nonferrous metals and semifinished products thereof	0	9			2	
29	27.5	Foundry work services					0	
30	28	Fabricated metal products	6	8	3		4	42
31	29	Machinery and equipment	28	22	1		56	23
32	30	Office machinery and computers	2	1	3		3	2
33	31	Electrical machinery and apparatus nec	3	3	1		3	3
34	32	Radio, television and communication equipment and apparatus					4	
35	33	Medical, precision and optical instruments; watches and clocks	2	2			0	6
36	34	Motor vehicles	3					3
37	35	Other transport equipment						
38	36	Furniture; other manufactured goods	0	0	0		0	0
39	37	Secondary raw materials	94					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	110	24	13		45	28
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	29	11	1		8	10
42	41	Collected and purified water, distribution of water	17	4	2		2	3
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	2	1	4		4	5
44	45.3 - 45.5	Building installation and completion works	4	4	8		10	4
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	3	4	7		5	2
46	51	Wholesale trade (excl. vehicles)	107	46	37		116	13
47	52	Retail trade (excl. vehicles)	16	6	9		13	2
48	55	Hotel and restaurant services	1	1	17		3	1
49	60.1	Railway transportation services	1	0	0		0	1
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	51	17	48		4	113
51	61	Water transport services	1	0				7
52	62	Air transport services	9	5	20		5	8
53	63	Supporting and auxiliary transport services	2	0			2	5
54	64	Post and telecommunication services	5	12	108		15	16
55	65	Financial intermediation services	17	17	42		32	52
56	66	Insurance services, except compulsory social security services	7	7	12		12	6
57	67	Services auxiliary to financial intermediation						
58	70	Real estate services	17	35	71		81	21
59	71	Renting services of machinery and eq. (without personal services)	15	37	34		112	8
60	72	Computer and related services	1	5	52		12	4
61	73	Research and development services						
62	74	Other business services	87	93	579		97	174
63	75.1 - 75.2	Administration services of the state, defence services	6	7	6		8	7
64	75.3	Compulsory social security services						
65	80	Education services	1	1	4		2	7
66	85	Health and social work services						
67	90	Sewage and refuse disposal services, sanitation	44	20	2		3	2
68	91	Membership organization services nec	1	2	5		5	6
69	92	Recreational, cultural and sporting services			262			
70	93	Other services	1	3	2		10	1
71	95	Services of private households						
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	2020	2051	2261		2152	4551

No.	CPA	Demand Supply	Pharmaceu	Chemicals	Rubber	Plastic	Glass and
			ticals	(excl. pharmaceu	products	products	glass products
			21	22	23	24	25
		No. CPA	24.4	4 (ohne 24.4)	25.1	25.2	26.1
1	01	Agricultural products and products of hunting		3	21		
2	02	Products and services of forestry and logging		0			
3	05	Fish and other fishing products					
4	10	Coal and lignite; peat	0	3		0	0
5	11	Crude oil, natural gas, extraction services thereof	3	75	2	6	10
6	12	Uranium and thorium ores					
7	13	Metal ores		1			1
8	14	Other mining and quarrying products		95			12
9	15.1 - 15.8	Food products	48	196			
10	15.9	Beverages	4	22			
11	16	Tobacco products					
12	17	Textiles	18	6	81	11	1
13	18	Wearing apparel		1			
14	19	Leather and leather products					
15	20	Wood and products of wood and cork (excl. furniture)	1	48	1	8	5
16	21.1	Pulp, paper and paperboard	1	98	5	5	3
17	21.2	Articles of paper and paperboard	53	252	18	43	18
18	22.1	Books, newspapers and other printed matter and recorded media	1	13	1	4	1
19	22.2 - 22.3	Printing services; reproduction services of recorded media	8	33	8	17	2
20	23	Coke, refined petroleum products	13	1170	4	261	21
21	24.4	Pharmaceuticals	710				
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	554	13637	406	2207	48
23	25.1	Rubber products	1	17	113	0	3
24	25.2	Plastic products	67	237	9	1201	25
25	26.1	Glass and glass products	10	46		50	199
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)	1	85		4	8
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof	1	15	20	1	
28	27.4	Nonferrous metals and semifinished products thereof	4	186	0	30	2
29	27.5	Foundry work services			0	4	2
30	28	Fabricated metal products	42	238	17	72	5
31	29	Machinery and equipment	6	307	111	103	30
32	30	Office machinery and computers	7	28	1	13	1
33	31	Electrical machinery and apparatus nec	2	44	3	5	1
34	32	Radio, television and communication equipment and apparatus					
35	33	Medical, precision and optical instruments; watches and clocks	13	47		12	
36	34	Motor vehicles	4	15		0	7
37	35	Other transport equipment				0	
38	36	Furniture; other manufactured goods	0	1	0	2	0
39	37	Secondary raw materials		12	18	29	15
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	21	233	26	104	28
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	3	40	4	9	18
42	41	Collected and purified water, distribution of water	3	44	3	6	4
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	6	13	2	5	2
44	45.3 - 45.5	Building installation and completion works	11	22	3	7	2
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	3	14	2	5	1
46	51	Wholesale trade (excl. vehicles)	31	584	76	81	69
47	52	Retail trade (excl. vehicles)	10	41	7	7	7
48	55	Hotel and restaurant services	2	20	0	15	1
49	60.1	Railway transportation services	0	31		0	
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	3	109	19	45	4
51	61	Water transport services		33	1	1	
52	62	Air transport services	13	48	3	20	3
53	63	Supporting and auxiliary transport services	6	44	12	25	2
54	64	Post and telecommunication services	18	68	6	35	5
55	65	Financial intermediation services	28	104	12	57	12
56	66	Insurance services, except compulsory social security services	7	68	5	25	3
57	67	Services auxiliary to financial intermediation		12			
58	70	Real estate services	41	150	23	71	12
59	71	Renting services of machinery and eq. (without personal services)	39	111	21	67	8
60	72	Computer and related services	26	51	1	14	4
61	73	Research and development services	335	85	2	35	1
62	74	Other business services	260	1438	72	374	94
63	75.1 - 75.2	Administration services of the state, defence services	10	61	3	23	3
64	75.3	Compulsory social security services					
65	80	Education services	4	28	1	7	1
66	85	Health and social work services		11		3	
67	90	Sewage and refuse disposal services, sanitation	6	206	2	13	1
68	91	Membership organization services nec	3	14	2	4	2
69	92	Recreational, cultural and sporting services	5	6			
70	93	Other services	5	18	1	2	0
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	2471	20640	1147	5150	706

No.	CPA	Demand Supply	Other non-metallic mineral products (excl. glass and glass	Basic iron, steel, tubes and semifinished products thereof	Nonferrous metals and semifinished products thereof	Foundry work services	Fabricated metal products
			No. 26 CPA 26.2 - 26.8	27 27.1 - 27.3	28 27.4	29 27.5	30 28
1	01	Agricultural products and products of hunting					
2	02	Products and services of forestry and logging					
3	05	Fish and other fishing products					
4	10	Coal and lignite; peat		5	10	0	0
5	11	Crude oil, natural gas, extraction services thereof		16	36	7	4
6	12	Uranium and thorium ores					
7	13	Metal ores			102	73	5
8	14	Other mining and quarrying products		109	1		4
9	15.1 - 15.8	Food products					
10	15.9	Beverages					
11	16	Tobacco products					
12	17	Textiles			0	0	0
13	18	Wearing apparel			2		0
14	19	Leather and leather products		1	2		2
15	20	Wood and products of wood and cork (excl. furniture)		11	9	3	4
16	21.1	Pulp, paper and paperboard		8	7	3	3
17	21.2	Articles of paper and paperboard		14	2	1	1
18	22.1	Books, newspapers and other printed matter and recorded media		2	6	3	2
19	22.2 - 22.3	Printing services; reproduction services of recorded media		7	15	8	6
20	23	Coke, refined petroleum products		40	439	12	18
21	24.4	Pharmaceuticals					
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)		181	95	552	129
23	25.1	Rubber products		1	5	0	3
24	25.2	Plastic products		30	7	3	2
25	26.1	Glass and glass products		1	2		
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)		615	111	6	51
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof		3	9357	1	63
28	27.4	Nonferrous metals and semifinished products thereof		3	134	2391	587
29	27.5	Foundry work services		3	0		70
30	28	Fabricated metal products		23	98	22	40
31	29	Machinery and equipment		98	104	85	59
32	30	Office machinery and computers		5	9	5	4
33	31	Electrical machinery and apparatus nec		3	60	14	16
34	32	Radio, television and communication equipment and apparatus					
35	33	Medical, precision and optical instruments; watches and clocks		3	13	2	6
36	34	Motor vehicles		20	22	14	
37	35	Other transport equipment			1		
38	36	Furniture; other manufactured goods		0	1	0	0
39	37	Secondary raw materials		12	159	79	8
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof		86	168	72	40
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains		32	69	8	8
42	41	Collected and purified water, distribution of water		11	19	5	6
43	45.1 - 45.2	Site preparation work, building construction and civil engineering		3	43	8	3
44	45.3 - 45.5	Building installation and completion works		20	11	3	5
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels		15	6	4	2
46	51	Wholesale trade (excl. vehicles)		197	356	58	92
47	52	Retail trade (excl. vehicles)		4	5	1	3
48	55	Hotel and restaurant services		2	3	3	1
49	60.1	Railway transportation services			55	2	
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines		143	144	20	6
51	61	Water transport services		1	31	3	1
52	62	Air transport services		8	12	2	4
53	63	Supporting and auxiliary transport services		30	25	4	5
54	64	Post and telecommunication services		15	12	6	7
55	65	Financial intermediation services		33	38	19	15
56	66	Insurance services, except compulsory social security services		13	7	3	3
57	67	Services auxiliary to financial intermediation					
58	70	Real estate services		48	26	31	12
59	71	Renting services of machinery and eq. (without personal services)		65	28	22	14
60	72	Computer and related services		7	16	6	9
61	73	Research and development services		8	6		
62	74	Other business services		210	245	96	71
63	75.1 - 75.2	Administration services of the state, defence services		19	14	3	5
64	75.3	Compulsory social security services					
65	80	Education services		4	8	4	2
66	85	Health and social work services					
67	90	Sewage and refuse disposal services, sanitation		10	17	34	9
68	91	Membership organization services nec		4	5	1	1
69	92	Recreational, cultural and sporting services					
70	93	Other services		5	11	2	2
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)		2208	12184	3706	1412
							9886

No.	CPA	Demand Supply	Machinery and equipment	Office machinery and computers	Electrical machinery and apparatus nec	Radio, television and communication equipment	Medical, precision and optical instruments; watches and clocks
			No. CPA	31	32	33	34
1	01	Agricultural products and products of hunting					
2	02	Products and services of forestry and logging					
3	05	Fish and other fishing products					
4	10	Coal and lignite; peat	0		0		
5	11	Crude oil, natural gas, extraction services thereof	8	0	4	1	1
6	12	Uranium and thorium ores					
7	13	Metal ores	0		0		
8	14	Other mining and quarrying products	0		0		0
9	15.1 - 15.8	Food products					
10	15.9	Beverages					
11	16	Tobacco products					
12	17	Textiles	24	0	13	9	11
13	18	Wearing apparel	1				0
14	19	Leather and leather products	4		1		2
15	20	Wood and products of wood and cork (excl. furniture)	94	4	17	12	11
16	21.1	Pulp, paper and paperboard	54	3	26	13	14
17	21.2	Articles of paper and paperboard	66	3	52	33	56
18	22.1	Books, newspapers and other printed matter and recorded media	14	4	9	7	6
19	22.2 - 22.3	Printing services; reproduction services of recorded media	81	11	27	26	27
20	23	Coke, refined petroleum products	45	5	30	7	9
21	24.4	Pharmaceuticals					
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	325	35	155	202	90
23	25.1	Rubber products	233	0	58	19	21
24	25.2	Plastic products	574	9	156	102	166
25	26.1	Glass and glass products	29	0	40	18	131
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)	58		60	14	5
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof	995	4	285	53	7
28	27.4	Nonferrous metals and semifinished products thereof	311	2	432	66	108
29	27.5	Foundry work services	703	1	118	11	20
30	28	Fabricated metal products	2635	40	518	141	301
31	29	Machinery and equipment	6611	2	105	14	118
32	30	Office machinery and computers	65	806	127	29	108
33	31	Electrical machinery and apparatus nec	1461	21	4526	70	128
34	32	Radio, television and communication equipment and apparatus	619	397	372	2138	354
35	33	Medical, precision and optical instruments; watches and clocks	122	2	65	11	721
36	34	Motor vehicles	113		10	10	33
37	35	Other transport equipment					
38	36	Furniture; other manufactured goods	2	0	1	0	0
39	37	Secondary raw materials					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	129	7	75	23	29
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	7	1	7	1	4
42	41	Collected and purified water, distribution of water	23	0	8	6	4
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	15	1	7	3	3
44	45.3 - 45.5	Building installation and completion works	25	2	13	7	7
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	28	3	9	6	5
46	51	Wholesale trade (excl. vehicles)	979	98	368	155	223
47	52	Retail trade (excl. vehicles)	51	1	28	10	34
48	55	Hotel and restaurant services	28	3	17	11	21
49	60.1	Railway transportation services	2	0	0	1	1
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	128	3	18	14	34
51	61	Water transport services	16	1	1	2	
52	62	Air transport services	113	35	16	48	45
53	63	Supporting and auxiliary transport services	170	17	14	13	5
54	64	Post and telecommunication services	144	17	74	29	35
55	65	Financial intermediation services	215	19	92	36	50
56	66	Insurance services, except compulsory social security services	23	2	7	7	6
57	67	Services auxiliary to financial intermediation			53		
58	70	Real estate services	305	31	167	58	53
59	71	Renting services of machinery and eq. (without personal services)	129	28	78	45	49
60	72	Computer and related services	96	62	46	18	17
61	73	Research and development services	11	8	22	19	4
62	74	Other business services	1630	99	829	485	374
63	75.1 - 75.2	Administration services of the state, defence services	28	4	28	11	10
64	75.3	Compulsory social security services					
65	80	Education services	28	3	12	6	7
66	85	Health and social work services	2		1	0	0
67	90	Sewage and refuse disposal services, sanitation	24	1	4	1	2
68	91	Membership organization services nec	12	2	7	4	4
69	92	Recreational, cultural and sporting services	1		1		
70	93	Other services	17	3	16	10	12
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	19627	1801	9225	4037	3488

No.	CPA	Demand Supply	Motor	Other	Furniture;	Secondary	Electricity,	
			vehicles	transport	other	raw	steam and	
		No.	36	37	38	39	40	
		CPA	34	35	36	37	40.1, 40.3	
1	01	Agricultural products and products of hunting						
2	02	Products and services of forestry and logging				1		
3	05	Fish and other fishing products				0		
4	10	Coal and lignite; peat	0	0				235
5	11	Crude oil, natural gas, extraction services thereof	14	2	1	0		144
6	12	Uranium and thorium ores						
7	13	Metal ores						
8	14	Other mining and quarrying products	0		2			
9	15.1 - 15.8	Food products						
10	15.9	Beverages						
11	16	Tobacco products						
12	17	Textiles	150	24	113			0
13	18	Wearing apparel	1	1	2	0		
14	19	Leather and leather products	14	2	102			
15	20	Wood and products of wood and cork (excl. furniture)	86	80	523	1		1
16	21.1	Pulp, paper and paperboard	54	5	22	0		3
17	21.2	Articles of paper and paperboard	17	2	53	0		1
18	22.1	Books, newspapers and other printed matter and recorded media	22	3	5	2		4
19	22.2 - 22.3	Printing services; reproduction services of recorded media	106	11	47	1		9
20	23	Coke, refined petroleum products	75	10	20	30		256
21	24.4	Pharmaceuticals						
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	703	59	129	6		5
23	25.1	Rubber products	912	24	26	1		
24	25.2	Plastic products	1292	36	190	8		
25	26.1	Glass and glass products	271	4	14	0		0
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)	49	6	18			14
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof	1389	280	7			15
28	27.4	Nonferrous metals and semifinished products thereof	274	81	51			1
29	27.5	Foundry work services	1149	78	0			
30	28	Fabricated metal products	2731	517	296	7		54
31	29	Machinery and equipment	1148	310	91	0		109
32	30	Office machinery and computers	15	4	2	2		8
33	31	Electrical machinery and apparatus nec	1887	114	8	1		563
34	32	Radio, television and communication equipment and apparatus	236	38	5			0
35	33	Medical, precision and optical instruments; watches and clocks	15	59	1	0		28
36	34	Motor vehicles	21519	19		26		5
37	35	Other transport equipment		1476				
38	36	Furniture; other manufactured goods	427	4	566			0
39	37	Secondary raw materials				240		
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	201	26	34	7		1249
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	13	2	3	1		177
42	41	Collected and purified water, distribution of water	25	2	3	2		3
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	21	2	4	1		26
44	45.3 - 45.5	Building installation and completion works	40	1	5	2		44
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	453	11	6	6		7
46	51	Wholesale trade (excl. vehicles)	520	114	304	43		143
47	52	Retail trade (excl. vehicles)	59	23	26	0		15
48	55	Hotel and restaurant services	51	4	3	0		3
49	60.1	Railway transportation services	54	0	0			33
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	200	5	61	4		12
51	61	Water transport services	51					28
52	62	Air transport services	80	18	8	0		0
53	63	Supporting and auxiliary transport services	297	4	21	1		5
54	64	Post and telecommunication services	108	14	11	1		25
55	65	Financial intermediation services	266	32	32	1		66
56	66	Insurance services, except compulsory social security services	39	7	16	1		84
57	67	Services auxiliary to financial intermediation						10
58	70	Real estate services	548	41	65	11		47
59	71	Renting services of machinery and eq. (without personal services)	201	15	29	16		164
60	72	Computer and related services	101	19	9	3		21
61	73	Research and development services	61	30				
62	74	Other business services	1631	278	224	44		366
63	75.1 - 75.2	Administration services of the state, defence services	58	6	10	8		440
64	75.3	Compulsory social security services						
65	80	Education services	40	5	5	0		8
66	85	Health and social work services	11					
67	90	Sewage and refuse disposal services, sanitation	39	2	4	2		19
68	91	Membership organization services nec	21	2	3	2		16
69	92	Recreational, cultural and sporting services	35					1
70	93	Other services	96	1	5	1		3
71	95	Services of private households						
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	39877	3909	3187	484		4469

No.	CPA	Demand Supply	Manufactur	Collected	Site	Building	Vehicles:	
			ed gas, distribution services of gaseous fuels	and purified water, distribution of water	preparation work, building constructio n and civil	installatio n and completion works	trade, maintenan ce and repair services	
		No.	41	42	43	44	45	
		CPA	40.2	41	45.1 - 45.2	45.3 - 45.5	50	
1	01	Agricultural products and products of hunting						0
2	02	Products and services of forestry and logging						
3	05	Fish and other fishing products						
4	10	Coal and lignite; peat			0	0		
5	11	Crude oil, natural gas, extraction services thereof	28		0	1		0
6	12	Uranium and thorium ores						
7	13	Metal ores						
8	14	Other mining and quarrying products			75	0		
9	15.1 - 15.8	Food products						
10	15.9	Beverages			1	1		
11	16	Tobacco products						
12	17	Textiles			0	51		2
13	18	Wearing apparel			1			0
14	19	Leather and leather products			4	2		
15	20	Wood and products of wood and cork (excl. furniture)			467	490		2
16	21.1	Pulp, paper and paperboard	1	0	4	15		3
17	21.2	Articles of paper and paperboard	1	1	1	54		2
18	22.1	Books, newspapers and other printed matter and recorded media	3	2	3	8		11
19	22.2 - 22.3	Printing services; reproduction services of recorded media	5	2	8	11		44
20	23	Coke, refined petroleum products	4	5	176	97		53
21	24.4	Pharmaceuticals						
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	6	18	46	447		32
23	25.1	Rubber products	0	0	12	18		81
24	25.2	Plastic products	0	1	383	1101		85
25	26.1	Glass and glass products			4	70		20
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)		0	2467	466		
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof	52	11	111	50		3
28	27.4	Nonferrous metals and semifinished products thereof			28	48		4
29	27.5	Foundry work services			1			53
30	28	Fabricated metal products	8	5	418	1328		173
31	29	Machinery and equipment	11	23	27	374		38
32	30	Office machinery and computers	3	2	3	5		8
33	31	Electrical machinery and apparatus nec	9	5	12	1965		135
34	32	Radio, television and communication equipment and apparatus				0		
35	33	Medical, precision and optical instruments; watches and clocks	52	18	1	8		11
36	34	Motor vehicles	3	2				558
37	35	Other transport equipment						
38	36	Furniture; other manufactured goods	0		0	6		0
39	37	Secondary raw materials						
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	73	69	7	10		68
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	35		4	3		12
42	41	Collected and purified water, distribution of water	0	9	10	5		6
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	11	8	302	39		11
44	45.3 - 45.5	Building installation and completion works	16	22	444	90		24
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	4	2	38	43		146
46	51	Wholesale trade (excl. vehicles)	26	11	342	793		130
47	52	Retail trade (excl. vehicles)	1	1	28	128		8
48	55	Hotel and restaurant services	1	0	21	18		6
49	60.1	Railway transportation services			0	0		7
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	130		31	1		13
51	61	Water transport services						1
52	62	Air transport services	5		11	8		6
53	63	Supporting and auxiliary transport services	2	1	19	21		18
54	64	Post and telecommunication services	15	4	18	50		26
55	65	Financial intermediation services	15	9	234	265		141
56	66	Insurance services, except compulsory social security services	21	10	34	43		26
57	67	Services auxiliary to financial intermediation						
58	70	Real estate services	16	3	1181	223		491
59	71	Renting services of machinery and eq. (without personal services)	27	10	427	196		27
60	72	Computer and related services	7	2	5	7		20
61	73	Research and development services						
62	74	Other business services	121	27	564	387		308
63	75.1 - 75.2	Administration services of the state, defence services	35	8	95	31		10
64	75.3	Compulsory social security services						
65	80	Education services	3	1	14	20		7
66	85	Health and social work services						
67	90	Sewage and refuse disposal services, sanitation	1	0	16	24		10
68	91	Membership organization services nec	4	1	20	33		11
69	92	Recreational, cultural and sporting services	1					0
70	93	Other services	3	1	5	6		5
71	95	Services of private households						
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	759	295	8127	9061		2859

No.	CPA	Demand	Supply				
			Wholesale trade (excl. vehicles)	Retail trade (excl. vehicles)	Hotel and restaurant services	Railway transportation services	Other land transportation services and transportation services
		No. CPA	46	47	48	49	50
			51	52	55	60.1	60.2 - 60.3
1	01	Agricultural products and products of hunting	0	1	50	1	1
2	02	Products and services of forestry and logging			0		
3	05	Fish and other fishing products			5		
4	10	Coal and lignite; peat	0	0	0		
5	11	Crude oil, natural gas, extraction services thereof	5	20	5	1	0
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products			1	0	
9	15.1 - 15.8	Food products			1179		
10	15.9	Beverages		2	924		
11	16	Tobacco products			1		
12	17	Textiles	3	41	27		0
13	18	Wearing apparel	0	2	1	0	1
14	19	Leather and leather products	0	1		0	0
15	20	Wood and products of wood and cork (excl. furniture)	16	18	11	1	1
16	21.1	Pulp, paper and paperboard	99	168	3	2	6
17	21.2	Articles of paper and paperboard	95	143	5	1	1
18	22.1	Books, newspapers and other printed matter and recorded media	13	158	51	3	10
19	22.2 - 22.3	Printing services; reproduction services of recorded media	88	468	9	10	20
20	23	Coke, refined petroleum products	179	100	21	27	373
21	24.4	Pharmaceuticals					
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	7	25	23	5	7
23	25.1	Rubber products	8	7	1	1	42
24	25.2	Plastic products	69	181	17	1	3
25	26.1	Glass and glass products		1	9		
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)	1	2	6	3	3
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof	4	14		8	40
28	27.4	Nonferrous metals and semifinished products thereof		0			
29	27.5	Foundry work services		2		1	1
30	28	Fabricated metal products	27	51	20	7	46
31	29	Machinery and equipment	18	56	24	45	7
32	30	Office machinery and computers	18	33	8	5	14
33	31	Electrical machinery and apparatus nec	8	13	21	35	42
34	32	Radio, television and communication equipment and apparatus		25	3		
35	33	Medical, precision and optical instruments; watches and clocks	3	9	0		5
36	34	Motor vehicles	0	0			177
37	35	Other transport equipment				81	
38	36	Furniture; other manufactured goods	1	6	6	0	0
39	37	Secondary raw materials					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	93	225	95	81	39
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	13	36	16	1	0
42	41	Collected and purified water, distribution of water	7	12	39	3	1
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	9	25	9	3	9
44	45.3 - 45.5	Building installation and completion works	30	80	49	1	39
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	60	291	15	4	281
46	51	Wholesale trade (excl. vehicles)	1422	223	362	11	51
47	52	Retail trade (excl. vehicles)	7	32	67	1	3
48	55	Hotel and restaurant services	113	40	8	0	57
49	60.1	Railway transportation services	58	11	0	115	
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	1017	227	1	0	156
51	61	Water transport services	83				2
52	62	Air transport services	42	21	2	0	3
53	63	Supporting and auxiliary transport services	2146	58	20	579	285
54	64	Post and telecommunication services	191	688	72	15	44
55	65	Financial intermediation services	266	406	182	27	103
56	66	Insurance services, except compulsory social security services	36	129	16	24	350
57	67	Services auxiliary to financial intermediation					
58	70	Real estate services	1226	1737	591	20	65
59	71	Renting services of machinery and eq. (without personal services)	319	342	61	7	185
60	72	Computer and related services	85	94	3	21	65
61	73	Research and development services					
62	74	Other business services	1242	1347	293	69	292
63	75.1 - 75.2	Administration services of the state, defence services	24	45	24	3	29
64	75.3	Compulsory social security services					
65	80	Education services	27	33	11	2	21
66	85	Health and social work services	2	13	10		
67	90	Sewage and refuse disposal services, sanitation	22	284	45	4	15
68	91	Membership organization services nec	26	114	6	1	18
69	92	Recreational, cultural and sporting services	1	5	68		
70	93	Other services	26	36	58	2	3
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	9258	8101	4553	1233	2917

No.	CPA	Demand Supply	Water	Air	Supporting	Post and	Financial
			transport	transport	and	telecommu-	intermediat-
			services	services	auxiliary	nication	ion
				transport	services	services	services
		No.	51	52	53	54	55
		CPA	61	62	63	64	65
1	01	Agricultural products and products of hunting	2		1	0	0
2	02	Products and services of forestry and logging					
3	05	Fish and other fishing products	0				
4	10	Coal and lignite; peat					
5	11	Crude oil, natural gas, extraction services thereof			0	1	2
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products					
9	15.1 - 15.8	Food products	28	5			
10	15.9	Beverages					
11	16	Tobacco products					
12	17	Textiles	1		1	6	2
13	18	Wearing apparel	0	0		0	
14	19	Leather and leather products			1		
15	20	Wood and products of wood and cork (excl. furniture)			4	4	1
16	21.1	Pulp, paper and paperboard	0	0	5	26	20
17	21.2	Articles of paper and paperboard	0	1	2	6	4
18	22.1	Books, newspapers and other printed matter and recorded media	1	1	6	13	11
19	22.2 - 22.3	Printing services; reproduction services of recorded media	0	2	56	176	78
20	23	Coke, refined petroleum products	156	1171	167	41	8
21	24.4	Pharmaceuticals					
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	4	0	2	3	2
23	25.1	Rubber products			2	3	
24	25.2	Plastic products		1	27	3	1
25	26.1	Glass and glass products				0	
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)			2	1	
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof			4	2	
28	27.4	Nonferrous metals and semifinished products thereof					
29	27.5	Foundry work services					
30	28	Fabricated metal products	3	0	70	8	2
31	29	Machinery and equipment	25		20	9	1
32	30	Office machinery and computers		1	38	83	38
33	31	Electrical machinery and apparatus nec	0	0	80	29	3
34	32	Radio, television and communication equipment and apparatus				568	
35	33	Medical, precision and optical instruments; watches and clocks	3	0		0	0
36	34	Motor vehicles			54		
37	35	Other transport equipment	2	495			
38	36	Furniture; other manufactured goods		0	0	1	1
39	37	Secondary raw materials					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	0	1	36	59	37
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains			0	1	5
42	41	Collected and purified water, distribution of water	0	0	8	7	5
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	0	0	24	20	10
44	45.3 - 45.5	Building installation and completion works	1	1	61	48	24
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels		0	285	28	6
46	51	Wholesale trade (excl. vehicles)	27	1	38	105	19
47	52	Retail trade (excl. vehicles)	1	0	6	27	6
48	55	Hotel and restaurant services	0	112	52	19	45
49	60.1	Railway transportation services			28	1	1
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines		1	1187	1	4
51	61	Water transport services	73		64		
52	62	Air transport services		1	69	37	50
53	63	Supporting and auxiliary transport services	776	691	1907	173	0
54	64	Post and telecommunication services	4	11	113	2300	151
55	65	Financial intermediation services	12	21	122	141	1928
56	66	Insurance services, except compulsory social security services	4	9	119	13	93
57	67	Services auxiliary to financial intermediation					1952
58	70	Real estate services	1	4	213	577	459
59	71	Renting services of machinery and eq. (without personal services)	131	156	216	85	79
60	72	Computer and related services	1	3	150	248	210
61	73	Research and development services				8	
62	74	Other business services	4	24	321	474	1468
63	75.1 - 75.2	Administration services of the state, defence services	2	2	17	11	11
64	75.3	Compulsory social security services					
65	80	Education services	1	8	14	10	23
66	85	Health and social work services					
67	90	Sewage and refuse disposal services, sanitation	0	0	19	8	11
68	91	Membership organization services nec	0	0	31	2	38
69	92	Recreational, cultural and sporting services				14	15
70	93	Other services	0	0	90	43	30
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	1265	2725	5735	5442	6856



No.	CPA	Demand Supply	Insurance	Services	Real estate	Renting	Computer
			services,	auxiliary to	services	services of	and related
			except compulsory social security	financial intermediation		machinery and equipment (without	services
		No. CPA	56	57	58	59	60
			66	67	70	71	72
1	01	Agricultural products and products of hunting	0		37	0	0
2	02	Products and services of forestry and logging					
3	05	Fish and other fishing products					
4	10	Coal and lignite; peat					
5	11	Crude oil, natural gas, extraction services thereof	1	0	0	0	1
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products					
9	15.1 - 15.8	Food products					
10	15.9	Beverages					
11	16	Tobacco products					
12	17	Textiles	2		0	0	2
13	18	Wearing apparel					
14	19	Leather and leather products					
15	20	Wood and products of wood and cork (excl. furniture)	1	0	64	0	1
16	21.1	Pulp, paper and paperboard	21	4	1	1	11
17	21.2	Articles of paper and paperboard	3	1	0	1	2
18	22.1	Books, newspapers and other printed matter and recorded media	11	0	59	2	5
19	22.2 - 22.3	Printing services; reproduction services of recorded media	39	1	13	5	21
20	23	Coke, refined petroleum products	7	3	9	9	15
21	24.4	Pharmaceuticals					
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	2		0		3
23	25.1	Rubber products			2		
24	25.2	Plastic products	1				0
25	26.1	Glass and glass products					
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)					
27	27.1. - 27.3	Basic iron, steel, tubes and semifinished products thereof					
28	27.4	Nonferrous metals and semifinished products thereof			0		
29	27.5	Foundry work services					
30	28	Fabricated metal products	4		22	1	6
31	29	Machinery and equipment	1		133		1
32	30	Office machinery and computers	22	6	7	4	202
33	31	Electrical machinery and apparatus nec	4	0	12	0	12
34	32	Radio, television and communication equipment and apparatus		1			2
35	33	Medical, precision and optical instruments; watches and clocks	0				
36	34	Motor vehicles					
37	35	Other transport equipment					
38	36	Furniture; other manufactured goods	1	0	0	0	1
39	37	Secondary raw materials					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	18	7	54	6	13
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	4	1	1	0	2
42	41	Collected and purified water, distribution of water	5	0	4	0	3
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	10	0	610	3	4
44	45.3 - 45.5	Building installation and completion works	26	1	1449	7	21
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	5	3	4	43	8
46	51	Wholesale trade (excl. vehicles)	14	3	14	3	53
47	52	Retail trade (excl. vehicles)	4	1	2	1	2
48	55	Hotel and restaurant services	29	9	2	2	11
49	60.1	Railway transportation services	1	0	0		2
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	1	1	1	0	1
51	61	Water transport services					
52	62	Air transport services	28	1	4	3	24
53	63	Supporting and auxiliary transport services	0				0
54	64	Post and telecommunication services	129	28	67	7	35
55	65	Financial intermediation services	325	389	3059	85	83
56	66	Insurance services, except compulsory social security services	1829	770	311	93	9
57	67	Services auxiliary to financial intermediation	1909	705		13	
58	70	Real estate services	401	33	1462	27	54
59	71	Renting services of machinery and eq. (without personal services)	48	78	15	986	126
60	72	Computer and related services	82	9	35	8	1152
61	73	Research and development services					
62	74	Other business services	2250	40	1311	205	188
63	75.1 - 75.2	Administration services of the state, defence services	9	1	161	5	7
64	75.3	Compulsory social security services					
65	80	Education services	11	3	47	2	57
66	85	Health and social work services					
67	90	Sewage and refuse disposal services, sanitation	5	0	131	1	6
68	91	Membership organization services nec	21	2	4	1	7
69	92	Recreational, cultural and sporting services	7				
70	93	Other services	20	1	24	3	28
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	7311	2104	9130	1527	2179

No.	CPA	Demand Supply	Research and development services	Other business services	Administration services of the state, defence services	Compulsory social security services	Education services
			No. 61	62	63	64	65
			CPA 73	74	75.1 - 75.2	75.3	80
1	01	Agricultural products and products of hunting	0	1	62	0	3
2	02	Products and services of forestry and logging		0	0		
3	05	Fish and other fishing products			0		
4	10	Coal and lignite; peat			1		
5	11	Crude oil, natural gas, extraction services thereof	0	6	13	0	6
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products			13		0
9	15.1 - 15.8	Food products		4	177		53
10	15.9	Beverages			14		7
11	16	Tobacco products					
12	17	Textiles	2	3	14	2	2
13	18	Wearing apparel		0	2		
14	19	Leather and leather products			11		0
15	20	Wood and products of wood and cork (excl. furniture)	1	10	38	1	32
16	21.1	Pulp, paper and paperboard	5	40	26	13	18
17	21.2	Articles of paper and paperboard	1	71	9	4	3
18	22.1	Books, newspapers and other printed matter and recorded media	24	665	40	4	68
19	22.2 - 22.3	Printing services; reproduction services of recorded media	32	357	115	46	89
20	23	Coke, refined petroleum products	12	103	161	5	83
21	24.4	Pharmaceuticals					
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	70	143	59	3	27
23	25.1	Rubber products	4	1	24	2	2
24	25.2	Plastic products	1	70	38	1	4
25	26.1	Glass and glass products	3	6	4		5
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)		0	26	1	0
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof		14	6		0
28	27.4	Nonferrous metals and semifinished products thereof		0	5		0
29	27.5	Foundry work services		0	1		
30	28	Fabricated metal products	7	15	87	9	18
31	29	Machinery and equipment	6	5	424	1	3
32	30	Office machinery and computers	43	49	92	43	40
33	31	Electrical machinery and apparatus nec	12	10	15	0	7
34	32	Radio, television and communication equipment and apparatus	8	14	68		13
35	33	Medical, precision and optical instruments; watches and clocks	29	6	29		12
36	34	Motor vehicles			15		
37	35	Other transport equipment			654		
38	36	Furniture; other manufactured goods	0	2	4	0	9
39	37	Secondary raw materials					
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	27	62	110	2	125
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	1	15	22	1	14
42	41	Collected and purified water, distribution of water	3	31	23	7	37
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	3	23	52	10	21
44	45.3 - 45.5	Building installation and completion works	9	151	224	38	84
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	5	51	99	5	18
46	51	Wholesale trade (excl. vehicles)	36	70	181	16	58
47	52	Retail trade (excl. vehicles)	10	30	64	6	26
48	55	Hotel and restaurant services	6	64	118	9	11
49	60.1	Railway transportation services	2	4	40	1	68
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	1	8	27	1	173
51	61	Water transport services			5		
52	62	Air transport services	24	117	123	7	5
53	63	Supporting and auxiliary transport services	1	14	9		
54	64	Post and telecommunication services	18	223	200	84	22
55	65	Financial intermediation services	16	555	562	99	61
56	66	Insurance services, except compulsory social security services	6	73	203	3	143
57	67	Services auxiliary to financial intermediation			6		
58	70	Real estate services	52	1244	325	94	78
59	71	Renting services of machinery and eq. (without personal services)	18	73	68	19	50
60	72	Computer and related services	156	222	45	121	67
61	73	Research and development services	162		189		63
62	74	Other business services	242	7396	584	154	139
63	75.1 - 75.2	Administration services of the state, defence services	27	102	159	56	17
64	75.3	Compulsory social security services			10		
65	80	Education services	284	77	84	51	1068
66	85	Health and social work services		2	31		15
67	90	Sewage and refuse disposal services, sanitation	5	42	174	6	15
68	91	Membership organization services nec	19	92	69	14	16
69	92	Recreational, cultural and sporting services	0	873	83	1	32
70	93	Other services	10	378	8	3	4
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	1404	13590	6146	940	2936

No.	CPA	Demand Supply	Health and social work services	Sewage and refuse disposal services, sanitation	Membership organization services nec	Recreational, cultural and sporting services	Other services
			No.	67	68	69	70
			CPA	85	90	91	92
1	01	Agricultural products and products of hunting	45	0	1	5	1
2	02	Products and services of forestry and logging	0		0		0
3	05	Fish and other fishing products	2			0	
4	10	Coal and lignite; peat					
5	11	Crude oil, natural gas, extraction services thereof	10	0	1	2	1
6	12	Uranium and thorium ores					
7	13	Metal ores					
8	14	Other mining and quarrying products	0	3			
9	15.1 - 15.8	Food products	869		15	20	6
10	15.9	Beverages	48			1	
11	16	Tobacco products					
12	17	Textiles	44		2	2	0
13	18	Wearing apparel	34	0	1	21	1
14	19	Leather and leather products	1	1		3	
15	20	Wood and products of wood and cork (excl. furniture)	12	17	1	7	116
16	21.1	Pulp, paper and paperboard	21	2	3	5	0
17	21.2	Articles of paper and paperboard	7	1	3	4	1
18	22.1	Books, newspapers and other printed matter and recorded media	102	4	10	36	9
19	22.2 - 22.3	Printing services; reproduction services of recorded media	34	24	15	39	4
20	23	Coke, refined petroleum products	85	19	8	43	23
21	24.4	Pharmaceuticals	1048				
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)	165	34	4	14	28
23	25.1	Rubber products	5	8			
24	25.2	Plastic products	38	26	2	1	
25	26.1	Glass and glass products	12	0			
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)	3	0	0		24
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof					
28	27.4	Nonferrous metals and semifinished products thereof					
29	27.5	Foundry work services		1			
30	28	Fabricated metal products	33	148	5	7	1
31	29	Machinery and equipment	30	57	0	0	7
32	30	Office machinery and computers	45	30	24	21	2
33	31	Electrical machinery and apparatus nec	23	6	0	5	1
34	32	Radio, television and communication equipment and apparatus	12			76	1
35	33	Medical, precision and optical instruments; watches and clocks	587	0	0	0	
36	34	Motor vehicles					
37	35	Other transport equipment	1				
38	36	Furniture; other manufactured goods	6	0	8	8	0
39	37	Secondary raw materials		142			
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof	176	5	10	31	42
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains	20	0	3	4	0
42	41	Collected and purified water, distribution of water	51	3	4	26	38
43	45.1 - 45.2	Site preparation work, building construction and civil engineering	64	39	7	11	3
44	45.3 - 45.5	Building installation and completion works	214	18	16	39	16
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	26	41	2	19	5
46	51	Wholesale trade (excl. vehicles)	501	125	16	88	14
47	52	Retail trade (excl. vehicles)	168	10	7	28	22
48	55	Hotel and restaurant services	33	4	18	48	8
49	60.1	Railway transportation services	1	0	2	4	0
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines	4	1	9	8	1
51	61	Water transport services					
52	62	Air transport services	14	6	9	51	7
53	63	Supporting and auxiliary transport services	0		0	3	0
54	64	Post and telecommunication services	124	31	33	158	14
55	65	Financial intermediation services	388	42	167	87	110
56	66	Insurance services, except compulsory social security services	57	51	31	16	7
57	67	Services auxiliary to financial intermediation					
58	70	Real estate services	562	70	45	115	47
59	71	Renting services of machinery and eq. (without personal services)	172	135	32	77	64
60	72	Computer and related services	143	80	8	27	7
61	73	Research and development services	28	25			
62	74	Other business services	1025	588	58	272	77
63	75.1 - 75.2	Administration services of the state, defence services	67	28	31	15	3
64	75.3	Compulsory social security services					
65	80	Education services	23	4	16	10	2
66	85	Health and social work services	608			29	
67	90	Sewage and refuse disposal services, sanitation	151	97	2	18	3
68	91	Membership organization services nec	55	15	141	10	12
69	92	Recreational, cultural and sporting services	34		13	1468	2
70	93	Other services	113	42	3	81	493
71	95	Services of private households					
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	8140	1985	786	3063	1224

No.	CPA	Demand Supply	Final demand of goods					
			Services of private households	Total	Domestic private household consumption expenditure	Consumption expenditure of NPISHs	Public consumption expenditure	
			No. CPA	71	72	73	74	75
			95					
1	01	Agricultural products and products of hunting		3249	2582			
2	02	Products and services of forestry and logging		232	99			
3	05	Fish and other fishing products		31	44			
4	10	Coal and lignite; peat		311	53			
5	11	Crude oil, natural gas, extraction services thereof		2271	1072			9
6	12	Uranium and thorium ores						
7	13	Metal ores		183				
8	14	Other mining and quarrying products		427	15			
9	15.1 - 15.8	Food products		8436	11521			18
10	15.9	Beverages		1369	2024			13
11	16	Tobacco products		20	542			
12	17	Textiles		1736	1632			
13	18	Wearing apparel		427	3107			
14	19	Leather and leather products		331	1003			
15	20	Wood and products of wood and cork (excl. furniture)		3609	139			
16	21.1	Pulp, paper and paperboard		3367	8			
17	21.2	Articles of paper and paperboard		2362	493			
18	22.1	Books, newspapers and other printed matter and recorded media		1694	2711			
19	22.2 - 22.3	Printing services; reproduction services of recorded media		3728	344			
20	23	Coke, refined petroleum products		8184	4571			9
21	24.4	Pharmaceuticals		1819	1193			1387
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)		23283	1466			3
23	25.1	Rubber products		1770	434			
24	25.2	Plastic products		6879	499			
25	26.1	Glass and glass products		1259	198			
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)		4243	319			
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof		14977				
28	27.4	Nonferrous metals and semifinished products thereof		5608				
29	27.5	Foundry work services		2427				
30	28	Fabricated metal products		14094	848			
31	29	Machinery and equipment		12007	1682			
32	30	Office machinery and computers		2179	351			
33	31	Electrical machinery and apparatus nec		11504	363			
34	32	Radio, television and communication equipment and apparatus		4955	648			
35	33	Medical, precision and optical instruments; watches and clocks		1959	857			332
36	34	Motor vehicles		22694	9726			
37	35	Other transport equipment		2711	661			22
38	36	Furniture; other manufactured goods		1086	3681			9
39	37	Secondary raw materials		811				
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof		5049	2064			18
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains		785				
42	41	Collected and purified water, distribution of water		681	392			
43	45.1 - 45.2	Site preparation work, building construction and civil engineering		1587				
44	45.3 - 45.5	Building installation and completion works		3593	268			
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels		2274	5704			
46	51	Wholesale trade (excl. vehicles)		12043				302
47	52	Retail trade (excl. vehicles)		1312	18195			1259
48	55	Hotel and restaurant services		1120	8499			
49	60.1	Railway transportation services		545	1056			
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines		4506	1445			18
51	61	Water transport services		441	236			
52	62	Air transport services		1290	1501			
53	63	Supporting and auxiliary transport services		7794	1085			316
54	64	Post and telecommunication services		5821	2720			
55	65	Financial intermediation services		11700	3200			
56	66	Insurance services, except compulsory social security services		5028	3651			
57	67	Services auxiliary to financial intermediation		4660	56			
58	70	Real estate services		14017	31712			27
59	71	Renting services of machinery and eq. (without personal services)		6216	634			
60	72	Computer and related services		3783	135			
61	73	Research and development services		1102			423	886
62	74	Other business services		34012	1132			
63	75.1 - 75.2	Administration services of the state, defence services		1949	424			16812
64	75.3	Compulsory social security services		10				3057
65	80	Education services		2175	1320	1148		9770
66	85	Health and social work services		797	6362	1280		17533
67	90	Sewage and refuse disposal services, sanitation		1753	1078			3
68	91	Membership organization services nec		963	396	1354		71
69	92	Recreational, cultural and sporting services		2963	4286	399		1088
70	93	Other services		1802	2603			
71	95	Services of private households			913			
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)		319999	155955	4604		52962

No.	CPA	Demand Supply	Final demand of goods					Total demand of goods	
			Capital investment		Changes in stocks and net acquisition of valuables	Exports	Total		
			Plant and other equipment	Buildings					
No.	CPA		76	77	78	79	81	82	
1	01	Agricultural products and products of hunting	-16	518	-39	577	3622	6870	
2	02	Products and services of forestry and logging	1		-1	58	158	389	
3	05	Fish and other fishing products			-9	35	71	102	
4	10	Coal and lignite; peat			11	266	330	641	
5	11	Crude oil, natural gas, extraction services thereof	16		145	65	1308	3579	
6	12	Uranium and thorium ores							
7	13	Metal ores			0	5	5	188	
8	14	Other mining and quarrying products			-1	356	369	796	
9	15.1 - 15.8	Food products			186	4145	15870	24306	
10	15.9	Beverages			-53	454	2438	3807	
11	16	Tobacco products			-126	307	724	744	
12	17	Textiles	36		2	2213	3883	5620	
13	18	Wearing apparel	1		-212	1516	4412	4839	
14	19	Leather and leather products			-174	583	1411	1743	
15	20	Wood and products of wood and cork (excl. furniture)	33	382	8	902	1464	5073	
16	21.1	Pulp, paper and paperboard			-43	1942	1907	5274	
17	21.2	Articles of paper and paperboard			-103	1069	1458	3820	
18	22.1	Books, newspapers and other printed matter and recorded media	9		-406	1305	3618	5313	
19	22.2 - 22.3	Printing services; reproduction services of recorded media	180		4	221	749	4476	
20	23	Coke, refined petroleum products			393	2289	7261	15445	
21	24.4	Pharmaceuticals			-590	5479	7468	9287	
22	24 (ohne 24.4)	Chemicals (excl. pharmaceuticals)			326	10326	12121	35404	
23	25.1	Rubber products	6		5	1384	1829	3599	
24	25.2	Plastic products	31	39	11	3184	3764	10642	
25	26.1	Glass and glass products	9		5	592	804	2062	
26	26.2 - 26.8	Other non-metallic mineral products (excl. glass and glass products)	8	19	66	731	1144	5387	
27	27.1 - 27.3	Basic iron, steel, tubes and semifinished products thereof	15	121	7	4080	4222	19199	
28	27.4	Nonferrous metals and semifinished products thereof			14	3373	3388	8996	
29	27.5	Foundry work services	15		4	746	765	3192	
30	28	Fabricated metal products	628	1010	-10	4616	7093	21187	
31	29	Machinery and equipment	6937	246	-17	20853	29701	41708	
32	30	Office machinery and computers	1619		167	3350	5488	7667	
33	31	Electrical machinery and apparatus nec	1344	177	-98	6712	8498	20002	
34	32	Radio, television and communication equipment and apparatus	1146		391	6521	8706	13661	
35	33	Medical, precision and optical instruments; watches and clocks	1819		-10	6105	9104	11062	
36	34	Motor vehicles	4108		-236	27344	40942	63636	
37	35	Other transport equipment	1935	15	-14	5922	8541	11252	
38	36	Furniture; other manufactured goods	826	19	179	2345	7059	8144	
39	37	Secondary raw materials			0		0	811	
40	40.1, 40.3	Electricity, steam and hot water, production and distr. services thereof				1276	3358	8407	
41	40.2	Manufactured gas, distr. services of gaseous fuels through mains				687	687	1471	
42	41	Collected and purified water, distribution of water				198	589	1270	
43	45.1 - 45.2	Site preparation work, building construction and civil engineering		11616		9	11625	13212	
44	45.3 - 45.5	Building installation and completion works		9914		1013	11195	14789	
45	50	Vehicles: trade, maint. and repair serv.; retail trade of automotive fuels	1012			6715	8989		
46	51	Wholesale trade (excl. vehicles)	1440		-762	9596	10576	22619	
47	52	Retail trade (excl. vehicles)	206			11	19671	20984	
48	55	Hotel and restaurant services				600	9099	10218	
49	60.1	Railway transportation services				192	1248	1793	
50	60.2 - 60.3	Other land transportation services and transp. services via pipelines				628	2090	6596	
51	61	Water transport services				1597	1833	2274	
52	62	Air transport services				1023	2524	3814	
53	63	Supporting and auxiliary transport services				947	2348	10142	
54	64	Post and telecommunication services				1512	4232	10053	
55	65	Financial intermediation services				2271	5470	17170	
56	66	Insurance services, except compulsory social security services				1584	5235	10263	
57	67	Services auxiliary to financial intermediation				195	251	4910	
58	70	Real estate services					124	32442	46459
59	71	Renting services of machinery and eq. (without personal services)		579			634	6850	
60	72	Computer and related services	2873			905	3913	7696	
61	73	Research and development services				793	2102	3204	
62	74	Other business services	92	1469		2894	5588	39599	
63	75.1 - 75.2	Administration services of the state, defence services		234		126	17595	19544	
64	75.3	Compulsory social security services					3057	3066	
65	80	Education services					12238	14413	
66	85	Health and social work services				1677	26853	27650	
67	90	Sewage and refuse disposal services, sanitation				753	1834	3586	
68	91	Membership organization services nec					1821	2784	
69	92	Recreational, cultural and sporting services	467		34	223	6497	9460	
70	93	Other services				131	2734	4536	
71	95	Services of private households					913	913	
72		Intermediate production of sectors (column 1 to 71) or Final use of goods (column 73 to 81)	26795	26358	-947	162932	428658	748657	

No.	CPA	Demand Supply	Agricultural	Products	Fish and	Coal and	Crude oil,	Uranium	Metal ores	Other	Food	Beverages
			products	and	other	and	natural	and	mining and	products		
			and	services of	fishing	lignite;	gas,	thorium	and	quarrying		
		products of	forestry	products	peat	extraction	ores	products				
		hunting	and			services						
		and	logging			thereof						
No.	CPA	No.	1	2	3	4	5	6	7	8	9	10
		CPA	01	02	05	10	11	12	13	14	15.1 - 15.8	15.9
73		Taxes minus subsidies	102	4	0	4	0			8	387	35
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price	3985	183	28	593	166			574	12957	1839
75		Domestic wages	593	44	4	165	20			72	3670	641
76		Other duties minus subsidies	-443	-21	1	-92	2			4	50	8
77		Depreciation	571	27	6	32	17			29	682	323
78		Net surplus	541	109	8	-74	26			35	530	378
79		Gross value added	1262	159	19	31	66			140	4932	1350
80		Production value	5247	342	47	623	232			714	17890	3189
82		Imports of similar goods at cif prices	1624	48	55	18	3347		188	82	6416	618
84		Total supply of goods	6870	389	102	641	3579		188	796	24306	3807

No.	CPA	Demand Supply	Tobacco	Textiles	Wearing	Leather	Wood and	Pulp, paper	Articles of	books,	printing	Coke,
			products		apparel	and leather	products of	and	paper and	newspaper	services;	refined
						products	wood and	paperboard	paper and	s and other	reproductio	petroleum
						and	and	paperboard	printed	n services	of recorded	products
						excl.	furniture)		matter and	recorded	media	
No.	CPA	No.	11	12	13	14	15	16	17	18	19	20
		CPA	16	17	18	19	20	21.1	21.2	22.1	22.2 - 22.3	23
73		Taxes minus subsidies	43	27	20	5	43	50	18	36	25	11
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price	359	1575	1171	353	2595	2070	2069	2297	2176	4563
75		Domestic wages	127	654	307	110	822	446	701	990	1137	282
76		Other duties minus subsidies	24	18	13	4	21	19	15	45	38	32
77		Depreciation	36	184	32	27	169	185	190	272	370	123
78		Net surplus	57	47	91	27	266	181	32	827	490	481
79		Gross value added	243	903	443	167	1278	831	938	2134	2034	917
80		Production value	602	2478	1614	521	3873	2901	3007	4431	4211	5480
82		Imports of similar goods at cif prices	142	3142	3224	1222	1200	2373	813	882	265	9965
84		Total supply of goods	744	5620	4839	1743	5073	5274	3820	5313	4476	15445

No.	CPA	Supply \ Demand	Pharmaceu	Chemicals	Rubber	Plastic	Glass and	Other non-	Basic iron,	Nonferrous	Foundry	Fabricated
			ticals	(excl. pharmaceu	products	products	glass and	metallic mineral	steel, tubes and	metals and semifinishe	work	metal
			No. 21	22	23	24	25	26	27	28	29	30
			CPA 24.4	4 (ohne 24.4	25.1	25.2	26.1	26.2 - 26.8	27.1 - 27.3	27.4	27.5	28
73		Taxes minus subsidies	20	187	16	54	24	57	95	37	23	108
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price	2492	20828	1163	5204	730	2265	12280	3743	1435	9994
75		Domestic wages	1348	3317	587	2188	460	1274	1173	617	702	5493
76		Other duties minus subsidies	40	187	17	60	11	29	54	21	11	150
77		Depreciation	170	1159	106	388	111	391	287	98	167	839
78		Net surplus	550	947	84	585	15	63	606	2	197	1375
79		Gross value added	2108	5609	794	3221	598	1757	2120	738	1078	7856
80		Production value	4600	26437	1957	8424	1328	4022	14400	4481	2513	17850
82		Imports of similar goods at cif prices	4687	8967	1642	2218	735	1365	4799	4515	678	3337
84		Total supply of goods	9287	35404	3599	10642	2062	5387	19199	8996	3192	21187

No.	CPA	Supply \ Demand	Machinery	Office	Electrical	radio,	Medical,	Motor	Other	Furniture;	Secondary	Electricity,
			and equipment	machinery and computers	machinery and apparatus nec	television and communication equipment	precision and optical instruments; watches and clocks	vehicles	transport equipment	other manufactured goods	raw materials	steam and hot water, production and distribution
			No. 31	32	33	34	35	36	37	38	39	40
			CPA 29	30	31	32	33	34	35	36	37	40.1, 40.3
73		Taxes minus subsidies	142	38	74	87	48	158	57	39	42	124
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price	19769	1839	9299	4124	3535	40035	3965	3226	526	4592
75		Domestic wages	9744	430	4352	1546	2761	8831	1542	1460	128	1062
76		Other duties minus subsidies	237	5	70	13	56	82	-8	33	7	137
77		Depreciation	1128	124	590	465	280	2022	193	250	24	762
78		Net surplus	2259	-18	452	20	1140	-166	174	298	36	1097
79		Gross value added	13368	541	5464	2044	4236	10769	1901	2040	195	3058
80		Production value	33137	2380	14764	6168	7772	50804	5867	5266	721	7650
82		Imports of similar goods at cif prices	8571	5287	5239	7493	3291	12831	5385	2878	90	757
84		Total supply of goods	41708	7667	20002	13661	11062	63636	11252	8144	811	8407

No.	CPA	Demand Supply	Manufactur	Collecte	Site	Building	vehicles:	Wholesale	Retail trade	Hotel and	Railway	Other land
			ed gas, distribution services of gaseous fuels	d and purified water, distributi of water	preparation work, building constructio n and civil	installati on and completion works	trade, maintenan ce and repair services:	trade (excl. vehicles)	(excl. vehicles)	restaurant services	transportati on services	transportati on services and transportati on services
		No.	41	42	43	44	45	46	47	48	49	50
		CPA	40.2	41	45.1 - 45.2	45.3 - 45.5	50	51	52	55	60.1	60.2 - 60.3
73		Taxes minus subsidies	24	15	97	103	44	191	164	168	33	324
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price	783	310	8224	9164	2903	9449	8266	4721	1266	3241
75		Domestic wages	325	236	3272	3289	3585	8098	8741	2816	476	2252
76		Other duties minus subsidies	27	5	47	50	146	631	296	11	-34	9
77		Depreciation	240	323	521	110	295	959	751	292	505	116
78		Net surplus	96	396	940	2176	1252	3074	2104	942	-581	377
79		Gross value added	688	960	4781	5625	5277	12762	11892	4061	367	2754
80		Production value	1471	1270	13005	14789	8180	22211	20158	8782	1632	5995
82		Imports of similar goods at cif prices			207		809	408	826	1436	161	602
84		Total supply of goods	1471	1270	13212	14789	8989	22619	20984	10218	1793	6596

No.	CPA	Demand Supply	Water	Air	Supporting	Post and	Financial	Insurance	Services	Real estate	renting	Computer
			transport services	transport services	and auxiliary transport services	telecommu nication services	intermediat ion services	services, except compulsory social security	auxiliary to financial intermediat ion	services	services of machinery and equipment (without	and related services
		No.	51	52	53	54	55	56	57	58	59	60
		CPA	61	62	63	64	65	66	67	70	71	72
73		Taxes minus subsidies	46	5	177	110	439	489	35	364	34	25
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price	1311	2731	5912	5552	7295	7800	2138	9495	1561	2203
75		Domestic wages	92	348	1852	1468	5106	1924	562	1477	324	3099
76		Other duties minus subsidies	13	13	62	40	308	154	21	1213	28	38
77		Depreciation	240	127	848	904	634	234	16	11410	4741	601
78		Net surplus	339	67	617	1785	3388	26	1360	18572	57	813
79		Gross value added	684	555	3379	4197	9436	2339	1959	32671	5151	4550
80		Production value	1995	3286	9291	9749	16731	10139	4097	42166	6712	6754
82		Imports of similar goods at cif prices	279	528	850	304	440	124	813	4293	138	942
84		Total supply of goods	2274	3814	10142	10053	17170	10263	4910	46459	6850	7696



No.	CPA	Supply \ Demand	Research and development services	Other business services	Administration services of the state, defence services	Compulsory social security services	Education services	Health and social work services	Sewage and refuse disposal services, sanitation	Membership organization services nec	Recreational, cultural and sporting services	Other services	
			No.	61	62	63	64	65	66	67	68	69	70
			CPA	73	74	75.1 - 75.2	75.3	80	85	90	91	92	93
73		Taxes minus subsidies	91	202	708	82	268	819	116	46	228	29	
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price	1495	13792	6854	1022	3205	8959	2102	833	3291	1253	
75		Domestic wages	887	11798	10360	1842	9008	12161	531	1664	1915	657	
76		Other duties minus subsidies	-34	128	-44	1	-45	-499	-34	-9	-15	63	
77		Depreciation	226	863	2261	102	879	2098	825	75	996	131	
78		Net surplus	35	11262			237	4931	163	15	1168	2429	
79		Gross value added	1114	24052	12577	1945	10079	18691	1485	1746	4064	3279	
80		Production value	2609	37844	19431	2968	13284	27650	3586	2578	7354	4531	
82		Imports of similar goods at cif prices	595	1755	113	99	1129			205	2105	5	
84		Total supply of goods	3204	39599	19544	3066	14413	27650	3586	2784	9460	4536	

No.	CPA	Supply \ Demand	Services of private households		Final demand of goods				Final demand of goods			Total demand of goods	
			Total	Domestic private household consumption expenditure	Consumption expenditure of NPISHs	Public consumption expenditure	Capital investment		Changes in stocks and net acquisition of valuables	Exports	Total		
							Plant and other equipment	Buildings					
No.	CPA	No.	71	72	73	74	75	76	77	78	79	81	82
		CPA	95										
73		Taxes minus subsidies		7726	19110		660	572	3362		-63	23641	31366
74		Intermediate production of sectors (column 1 to 71) or final use of goods (column 73 to 81) at purchase price		327724	175065	4604	53622	27367	29719	-947	162869	452299	780023
75		Domestic wages	735	160700									
76		Other duties minus subsidies		3541									
77		Depreciation		45148									
78		Net surplus		71811									
79		Gross value added	735	281200									
80		Production value	735	608924									
82		Imports of similar goods at cif prices	179	139733									
84		Total supply of goods	913	748657									