**Appendix 1**

This appendix describes the main databases that have been used in this study. Firstly, we have collected the symmetric input-output tables (henceforth, SIOT) from the World Input-Output Database (WIOD, onwards).[[1]](#footnote-1) The last release of this database was compiled in November of 2016 and covers 28 EU countries plus 15 other major countries in the world for the period from 2000 to 2014. SIOT are defined at producer prices in this WIOD and adhere to the 2008 version of the System of National Accounts (SNA, onwards). The information is disaggregated in 56 sectors according to the International Standard Industrial Classification (ISIC revision 4). Following the appropriate methodology,1 we have extracted the domestic SIOT for the Spanish economy in 2012 to further aggregate data in 18 sectors (Table 1). For the purpose of this investigation, sector “Health services and social work activities” has been split into its two major divisions to find out the employment depending specifically on the consumption of social work activities.

The household consumption funded with the total costs of dependency has been estimated from the Household Budget Survey (HBS onwards) carried out in 2012 by the Spanish Statistics Institute.2 This database provides information on the amount and structure of household expenditure based on the COICOP (Classification of Individual Consumption by Purpose). The HBS also contains socioeconomic data about the standard of living, income and the professional activity of the household reference person. For simplicity, we shall assume that a household is classified according to the status of its reference person. The compensation and number of workers by productive sectors were extracted from the National Accounting of the Spanish Statistics Institute.

Given that HBS microdata refer to commodity expenditures, it has been necessary to allocate these commodities to the industrial sectoring scheme adopted by the SIOT to provide comparable results between consumption purposes and sectoral production. Nowadays, there is no official correspondence between the HBS and the SIOT, therefore HBS data have been aggregated according to the correspondence table based on the previous 18-sectoring scheme of the SIOT and a correspondence tool provided by United Nations that matches the Central Product Classification and the COICOP (Table 2).

**Table 1**

Correspondence table from TSIO to 18 sectors in the model

|  |  |
| --- | --- |
| **TSIO (ISIC rev4)** | **R-18** |
| Crop and animal production, hunting and related service activities | **A** | Agriculture, forestry and fishing |
| Forestry and logging |
| Fishing and aquaculture |
| Mining and quarrying | **B** | Mining and quarrying |
| Manufacture of food products, beverages and tobacco products | **C** | Manufacture |
| Manufacture of textiles, wearing apparel and leather products |
| Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials |
| Manufacture of paper and paper products |
| Printing and reproduction of recorded media |
| Manufacture of coke and refined petroleum products  |
| Manufacture of chemicals and chemical products  |
| Manufacture of basic pharmaceutical products and pharmaceutical preparations |
| Manufacture of rubber and plastic products |
| Manufacture of other non-metallic mineral products |
| Manufacture of basic metals |
| Manufacture of fabricated metal products, except machinery and equipment |
| Manufacture of computer, electronic and optical products |
| Manufacture of electrical equipment |
| Manufacture of machinery and equipment n.e.c. |
| Manufacture of motor vehicles, trailers and semi-trailers |
| Manufacture of other transport equipment |
| Manufacture of furniture; other manufacturing |
| Repair and installation of machinery and equipment |
| Electricity, gas, steam and air conditioning supply | **D** | Electricity, gas, steam and air conditioning supply |
| Water collection, treatment and supply | **E** | Water collection, treatment and supply and waste collection |
| Sewerage; waste collection, treatment and disposal activities; materials recovery; remediation activities and other waste management services  |
| Construction | **F** | Construction |

|  |  |
| --- | --- |
| **TSIO (ISIC rev4)** | **R-18** |
| Wholesale and retail trade and repair of motor vehicles and motorcycles | **G** | Wholesale and retail trade |
| Wholesale trade, except of motor vehicles and motorcycles |
| Retail trade, except of motor vehicles and motorcycles |
| Land transport and transport via pipelines | **H** | Transport |
| Water transport |
| Air transport |
| Warehousing and support activities for transportation |
| Postal and courier activities |
| Accommodation and food service activities | **I** | Accommodation and food service activities |
| Publishing activities | **J** | Information and communication |
| Motion picture, video and television programme production, sound recording and music publishing activities; programming and broadcasting activities |
| Telecommunications |
| Computer programming, consultancy and related activities; information service activities |
| Financial service activities, except insurance and pension funding | **K** | Financial and insurance activities |
| Insurance, reinsurance and pension funding, except compulsory social security |
| Activities auxiliary to financial services and insurance activities |
| Real estate activities | **L** | Real estate activities |
| Legal and accounting activities; activities of head offices; management consultancy activities | **M-N** | Professional, scientific and technical activities; administrative and support service activities |
| Architectural and engineering activities; technical testing and analysis |
| Scientific research and development |
| Advertising and market research |
| Other professional, scientific and technical activities; veterinary activities |
| Administrative and support service activities |
| Public administration and defence; compulsory social security | **O** | Public administration, defence |
| Education | **P** | Education |
| Human health and social work activities | **Q86** | Health services |
| **Q87-88** | Social work activities |
| Other service activities | **R-U** | Arts, entertainment and recreation; other service activities; activities of household and extra-territorial organizations and bodies |
| Activities of households as employers; |
| Activities of extraterritorial organizations and bodies |

**Table 2**

Correspondence table from 18 sectors in the model to COICOP in HBS.

|  |  |
| --- | --- |
| **R-18** | **COICOP in HBS** |
| **A** | 011xx Alimentos |
| 09331 Jardinería y flores |
| **B** | 0454x Combustibles sólidos |
| **C** | 011xx Alimentos elaborados y tratados |
| 012xx Bebidas no alcoholicas |
| 021xx Bebidas alcoholicas |
| 022xx Tabaco |
| 023xx Narcólticos |
| 031xx Ropa y artículos textiles |
| 032xx Calzado |
| 05xxx Muebles, artículos del hogar y artículos para el mantenimiento corriente del hogar |
| 06113 Aparatos y material terapéutico |
| 07211 Piezas de repuesto para mantenimiento del hogar |
| 08211 Equipos de teléfono y fax |
| 091xx Equipos y accesorios audiovisuales |
| 092xx Productos para ocio y cultura |
| 093xx Equipo para deporte, camping y entretenimiento al aire libre |
| 095xx Impresos y artículos de papelería |
| 122xx Joyería, bisutería y relojería |
| **D** | 045xx Electricidad, gas y otros combustibles |
| **E** | 044xx Servicios relacionados con la vivienda |
| **F** | 043xx Materiales para el mantenimiento y reparaciones corrientes de la vivienda |
| **G** | 031xx Reparación de ropa y textiles |
| 032xx Reparación y alquiler de calzado |
| 071xx Vehículos nuevos |
| 07221 Carburantes y lubricantes |
| 072xx Mantenimiento y reparaciones de vehículos |
| 09151 Reparación de equipos y accesorios audiovisuales,  |
| 09231 Mantenimiento y reparación de grandes equipos |
| **H** | 073xx Servicios de transporte |
| 08111 Servicios postales y de mensajería |
| **I** | 111xx Restauración y comedores |
| 112xx Servicios de alojamiento |
| **J** | 083xx Servicios de telefonía y fax |
| **K** | 124xx Seguros |
| 12511 Servicios financieros |
| **L** | 041xx Alquileres reales |
| 042xx Alquileres imputados  |
| 044xx Gastos comunitarios |
| **M-N** | 07243 Servicios relativos a los vehículos personales  |
| 09424 Alquiler de televisión y videos |
| 12611 Servicios de abogados, notarios, servicios funerarios, de reprografía, mecanografía, etc. |

|  |  |
| --- | --- |
| **R-18** | **COICOP in HBS** |
| **O** | 05622 Pagos a la Seguridad Social del servicio doméstico |
| **P** | 10xxx Educación |
| **Q86** | 06xxx Sanidad |
| **Q87-88** | 123xx Servicios de protección social |
| **R-U** | 0444x Servicios relativos a la comunidad de la vivienda |
| 05xxx Servicio de reparación de aparatos y accesorios del hogar |
| 056xx Servicio doméstico y otros servicios para la vivienda |
| 0724x Servicio de aparcamiento y peajes |
| 094xx Servicios recreativos, culturales y deportivos |
| 095xx Libros y prensa |
| 09611 Vacaciones todo incluido |
| 121xx Peluquería y estética personal |
| 12612 Tasas por emisión de documentos oficiales y costas judiciales |
| 12711 Dinero de bolsillo a menores residentes en el hogar |
| 12811 Remesas a miembros del hogar no residentes en la vivienda |

**References**

1. Timmer MP, Dietzenbacher E, Los B, et al. An illustrated user guide to the world input–output database: the case of global automotive production. Review of International Economics. 2015;23:575-605.

2. INE. Encuesta de Presupuestos Familiares. 2012. Available at: http://www.ine.es/inebaseDYN/propob30278/propob\_resultados.htm

1. Further information in [www.wiod.org](http://www.wiod.org). [↑](#footnote-ref-1)