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Updating the SPPI Baskets in Israel

Weights, Samples, and Base Year

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Table of contents

- Introduction
- Objectives and Coverage
- Sample
- Survey and Data
- Updating the Legal Activities Index

1. Introduction

Updating the baskets of services whose price changes are measured to calculate SPPIs in Israel is part of an overall work plan for developing new SPPIs and updating the existing indices. The work on this project began in the second half of 2022 and is an ongoing task being carried out by the SPPI Sector team at the Israel Central Bureau of Statistics (ICBS). SPPIs in Israel cover several industries and have been developed over a period of time, industry by industry. This is due to the fact that each industry is unique, with its own specific characteristics with regard to market, services, price mechanism, and pricing methods.

SPPIs in Israel measure the changes in prices of services provided by domestic companies to other businesses (B2B), to consumers (B2C), to the government (B2G), and for exports. The indices deal exclusively with domestic production and do not cover imports. SPPIs are used for the measurement of price changes, serve as deflators of nominal values of output and their presentation in constant prices, and for the measurement of GDP in National Accounts. The development of SPPIs began in 2006 and is still underway. This is due to the number of industries, the complexity of the process of development, and the resources needed. The indices that have already been developed are published on a quarterly basis, and at the present stage include 8 divisions/groups and a total of 15 classes. They are organized according to the ICBS' *Standard Industrial Classification of All Economic Activities, 2011* (which is based on the *International Standard Industrial Classification of All Economic Activities (ISIC), Rev. 4*).

The indices cover the following industries:

581 Publishing of books, periodicals and other publishing activities; (base year: 2012)

5811 Book publishing

5813 Publishing of newspapers, journals and periodicals

691 Legal activities; (base: 2003)

692 Accounting, bookkeeping and auditing activities; tax consultancy; (2004)

6920 Bookkeeping

6921 Accounting

6922 Tax Consultancy

70 activities of head offices, Management consultancy activities; (2009)

7010 Head offices

7020 Management consultancy activities

73 Advertising and Market research;(2010)

7310 Advertising

7320 Market Research

78 Employment activities; (2009)

7810 Employment Placements Agencies

7820 Temporary Employment Agency Activities

80 Security and investigation activities (2005)

8010 Security Activities

8020, 8030 Security Systems, Investigation Activities

812 Cleaning activities. (2007)

8121 General Cleaning of buildings

8129 Other Cleaning activities

Each of the indices has its own weighting system and its own base year. The goal of the updating process is to update the samples of companies and the samples of services in each industry in order to keep the indices representative, as well as to update the structure and weights of the indices.

2. Objectives and Coverage

A great deal of time has passed since the indices were first developed. Over time, companies close, merge, or change their activities. There are also changes in the kind of services provided and in customers. New destinations for the services appear (for example, a growth in exports) and there are technological advancements. In order to keep the indices representative, complete updates of the baskets are required, including updating and expanding the samples of companies and the samples of services and transactions, as well as updating the structure and weights of the indices.

An additional objective is to compile the indices at a product detail level, in addition to the industry level, according to the *Central Product Classification (CPC) Version 2.0* of the United Nations and according to the *Eurostat-OECD Methodological Guide for Developing Producer Price Indices for Services*.

Table 1: Number of companies, products and items in the SPPI's before the updating process

Industry	Description	Companies	Products	Items
691	Legal activities	21	22	138
692	Accounting, bookkeeping & auditing activities; tax consultancy	9	12	44
70	Activities of head offices; management consultancy services	14	22	92
73	Advertising and market research	12	31	834
80	Security and investigation activities	8	7	30
812	Cleaning activities	8	10	44
78	Employment activities	8	25	85
58	Publishing activities	15	22	104
	TOTAL	95	151	1371

According to the work plan, the indices of 4 of the 8 industries listed above are to be updated in the first stage: Legal activities (691); Accounting, bookkeeping and auditing activities and tax consultancy (692); Activities of head offices and management consultancy activities (70); and Advertising and market research (73).

3. Sample

3.1 Sampling Frame

In Israel, the ICBS' Business Register and Survey of Industries are used as a sampling frame. The survey is based on a sample drawn for all industries from the Business Register. The frame includes all of the active dealers, according to VAT sources. The dealers with the highest revenues in each industry are always included in the sample, and a simple random sample is drawn from the remainder. The sample of the Survey of Industries was planned in order to effectively estimate the total revenue. The main sources of the survey data are financial reports of dealers presented to the Income Tax authorities and employers' reports to the National Insurance Institute on the number of jobs and compensation for jobs in their businesses. The survey measures the employment, revenue, output, and gross value added, which are relevant parameters for drawing the samples for the SPPIs. The limitation of the use of this source is the timing. For example, for the year 2022, the data refer to 2019. This is a disadvantage particularly with industries that are rapidly changing. Another shortcoming is that only information at the 4-digit level of the industry (class) is included, without data on the services themselves.

3.2 Sample Design

The sample includes two groups: companies which have already been included in previous samples and have already reported on their prices, and new companies that are reporting for the first time. Once a company is included in a sample, it usually continues to be included in subsequent samples, however a small number of them are removed. The samples are drawn at the class level (ISIC 4-digit level) of each industry. The companies are selected according to revenues and number of jobs, the aim being to cover at least 50% of the revenues in the sampling frame.

The sampling is carried out in two stages. In the first stage, a sample of companies is drawn, and in the second stage, a sample of services. The sample of services is drawn according to the data received from the companies about the types of services provided and the distribution of revenues among these groups. The services whose prices are to be measured are selected from each group, as well as the pricing method to be used.

3.3 Sample of Companies

First, the sample is drawn from the large companies in each class of the industry, in order to get as much coverage as possible. Then, medium- and small-sized companies are included, using Probability Proportional to Size (PPS) sampling. The following table displays information on the samples of the "permanent" companies (companies that are always included in the sample), i.e., the large companies in each class.

Table 2: Revenues of Companies and Coverage in the Sample

691 Legal activities

6910 – Legal activities		
	Revenues	Number of companies
Population	19,903,674	25,119
Sampling frame	2,556,569	442
SPPI sample	2,339,414	23
Cover of sampling frame	91.5%	5.2%
Cover of population	38.8%	1.7%

692 Accounting, bookkeeping and auditing activities; tax consultancy

6920 – Bookkeeping		
	Revenues	Number of companies
Population	2,672,820	4,826

Sampling frame	377,053	77
SPPI sample	356,066	16
Cover of sampling frame	94.4%	20.8%
Cover of population	48.4%	9.6%
6921 – Accounting		
	Revenues	Number of companies
Population	6,512,036	5,670
Sampling frame	2,736,626	98
SPPI sample	2,679,711	15
Cover of sampling frame	97.9%	15.3%
Cover of population	51.6%	1.1%
6922 – Tax Consultancy		
	Revenues	Number of companies
Population	1,289,545	1,994
Sampling frame	27,255	30
SPPI sample	20,056	6
Cover of sampling frame	73.6%	20.0%
Cover of population	65.7%	15.0%

731 Advertising

7310 – Advertising		
	Revenues	Number of companies
Population	17,416,012	7,030
Sampling frame	7,915,587	185
SPPI sample	6,516,388	26
Cover of sampling frame	82.3%	14.1%
Cover of population	38.5%	0.4%

732 Market research and public opinion polling

7320 – Market research and public opinion polling		
	Revenues	Number of companies
Population	564,052	229
Sampling frame	260,689	36
SPPI sample	191,348	8
Cover of sampling frame	73.4%	22.2%
Cover of population	44.7%	5.1%

701 Activities of head offices

7010 – Activities of head offices		
	Revenues	Number of companies
Population	1,236,290	31
Sampling frame	1,184,165	30
SPPI sample	949,106	6
Cover of sampling frame	80.1%	20.0%
Cover of population	81.0%	22.6%

702 Management consultancy activities

7020 – Management consultancy activities		
	Revenues	Number of companies
Population	23,471,072	26,840
Sampling frame	2,649,822	573
SPPI sample	1,830,155	32
Cover of sampling frame	69.1%	5.6%
Cover of population	21.4%	0.4%

For each industry, medium- and small-sized companies within the division are added to the sample using PPS sampling, with the range defined for each size level, in order to expand the coverage of the sample.

4. Survey and Data

A special survey of the companies in the SPPI sample is required in order to update the weights of the indices and the samples of services. In this survey, the SPPI team visit the companies and collect data and information at the company level about the distribution of revenues among the various services provided. They also select from each service group the definitions of services and transactions for which prices will be collected. These visits to the companies, especially the large ones, and particularly those in new industries, are very important for gaining an understanding of the industry, the various activities, the services, the customers, the destinations (domestic and foreign), the pricing mechanisms, and the pricing methods.

The information is collected from new companies as well as from those already reporting. Companies already reporting are asked about the distribution of revenues among the various services provided and the new data is used to update the sample of services. New services are selected from each group. New companies are asked about the distribution of revenues, and a sample of services whose prices are to be collected every quarter is defined.

The final phase is the calculation of the weights. This is carried out in two stages:

- (1) Weights of the classes are calculated from the Survey of Industries, which includes the revenues for each class for 2022;
- (2) Weights for the products (services) and items are derived from the special survey of the companies, based on the companies' total revenues and its distribution among the various groups of services.

5. Updating the Legal Activities (691) Index

The first industry to have its basket updated is Legal activities (691). The reason for starting with this industry is the long period of time that has passed since this index was last published and the rapid developments in the market of Legal activities, which is characterized by mergers and acquisitions of law firms. The work on this update began in the last quarter of 2022, and the updated index is scheduled to be presented in the first quarter of 2024, with the base year 2023 = 100.0. Since much time has passed since this index was initially developed, the process of updating the basket in this case is quite similar to the process of developing a new index, and includes the following stages:

Stage	Action	Schedule (quarter)
Preparatory work	Review of literature (manuals, papers) internet, data bases, contacting industry representative organizations, learning about the market characteristics (size, structure), defining the objectives and scope	4/2022
Sample and collecting tools	Defining the sample of companies, developing the questionnaire	1/2023
Visiting the companies	Finding the contact persons and their details, sending emails, making appointments, and visiting the companies.	2-4/2023
Data collection	Ongoing price collection	2-4/2023
Setting the framework of the index	Calculation of the index according to the new structure and weights, and in reference to a new base year	4/2024
Publishing the index	Publishing, using the index for deflation of values series and getting feedback from users	2/2024

The new sample for Legal activities includes 23 law firms, three of which were already included in the old sample and have already been reporting. The initial sample includes the

large firms that are multidisciplinary and provide a variety of legal services. However, there are also firms whose expertise lies in one or two specific areas, for example, labour or patents. The 10 largest firms employ between 331 and 811 lawyers, and those ranked 11 to 25 in size employ between 81 and 291 lawyers.

At the large firms that the SPPI team visit during the current stage, data is collected about the different legal services provided; the transactions and customers; and the prices (fees). The main pricing mechanisms and pricing methods being investigated are:

- (1) Time spent methods, usually hourly charge-out rates (fees) that the firm charges according to seniority and experience – 4 levels have been defined: Senior associate attorney, associate attorney, hired attorney, and intern; an additional factor involved is the type of customer: large and regular customers pay less than small and occasional customers;
- (2) Contingency fee (percentage fee), where the payment is according to the outcome of the legal proceedings, i.e., a percentage of the sum that the client receives at the outcome;
- (3) Price for repeated services – applies to certain specified services or procedures, regardless of the time spent or outcome, for example:
- (4) Retainers (transaction prices) – a monthly or yearly sum that regular customers pay for ongoing legal advice, according to an agreement about the number of hours and type of legal services provided (does not include litigation), for example, a large customer's retainer for x hours per month.

During the visits to the law firms, the SPPI team ask about the type of services and the areas of activity. Based on to the information received, the areas of coverage are defined: Commercial law (corporate law, mergers and acquisitions), tax law, capital market, hi-tech, banking, litigation, intellectual property and patents, labour and employment, real estate, criminal law (white collar, etc.), and more.

Information on revenues (2022) and the distribution of the revenues among the different areas is also collected during the visits to the law firms. This information is useful for calculating the weights and defining the sample of services whose prices are to be measured on a current basis.