



הלשכה המרכזית לסטטיסטיקה
Central Bureau of Statistics
دائرة الإحصاء المركزية

Lessons learned in dealing with shocks: The impact of COVID-19 pandemic on SPPIs in Israel

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Topics

- ❑ Introduction
- ❑ Implications of covid-19
 - Collection of prices
 - Compilation and publication
 - Updating the weights
- ❑ Prices and revenues trends
- ❑ Advertising Industry
- ❑ Summary and Conclusion

Introduction

The outbreak of COVID-19 pandemic (Coronavirus) and the measures implemented to limit its spread, such as movement restrictions, lockdowns and closing of businesses have had major consequences on the world economy, on GDP growth, on consumption and production in the majority of industries.

Some industries were affected more severely by the crisis such as airlines, hotels, restaurants, culture and sports, while other industries were less affected, and few industries even grew as the demand for their services raised. The crisis affected the compilation routine of price statistics.

Updating the basket of Price Indices in 2021

- ❑ **Consumer price index** - monthly (base 2020 = 100.0) according to 2019 households expenditures, with adjustment to 2020 prices. For certain segments such as fuels, passenger transport, recreational and cultural services, package holidays, restaurants and hotels, correction and adjustment of weights for 2020 were made according to alternative data sources, credit cards data.
- ❑ **Producer price index of manufacturing output for the domestic market** - monthly (base 2020 = 100) data on distribution of revenues for 2019 with adjustments to 2020 price changes
- ❑ **The input price index of agriculture** (base 2020 = 100.0) data for 2019 with adjustments to 2020 price change

Planned Updates of basket 2022

- ❑ *Producer prices of manufacturing output for export*
- ❑ *SPPIs: Service Producer Price Indices*
- ❑ *The input price index of construction*

Services Producer Price Indices

quarterly (started 2008) different base years

- ***691 Legal Activities***
- ***692 Accounting Bookkeeping and Auditing Activities Tax Consultancy***
- ***80 Security and Investigation***
- ***81 Cleaning Activities***
- ***70 Management Consulting Activities***
- ***78 Employment Activities***
- ***73 Advertising***
- ***58 Publishing Activities***
- ***62 Computer Programming, Consultancy and Related Activities***
- ***63 Information services***

The impact of the pandemic on SPPIs

- Businesses were temporarily closed
- Businesses provided limited services
- Companies worked with reduced staff, respondents worked from home
- PPI staff worked at an emergency format and remotely
- Harder to contact respondents
- Harder to achieve cooperation
- Data was collected mostly via email, phone, and internet portals, which made it easier to continue the collection routine

Implications on SPPIs

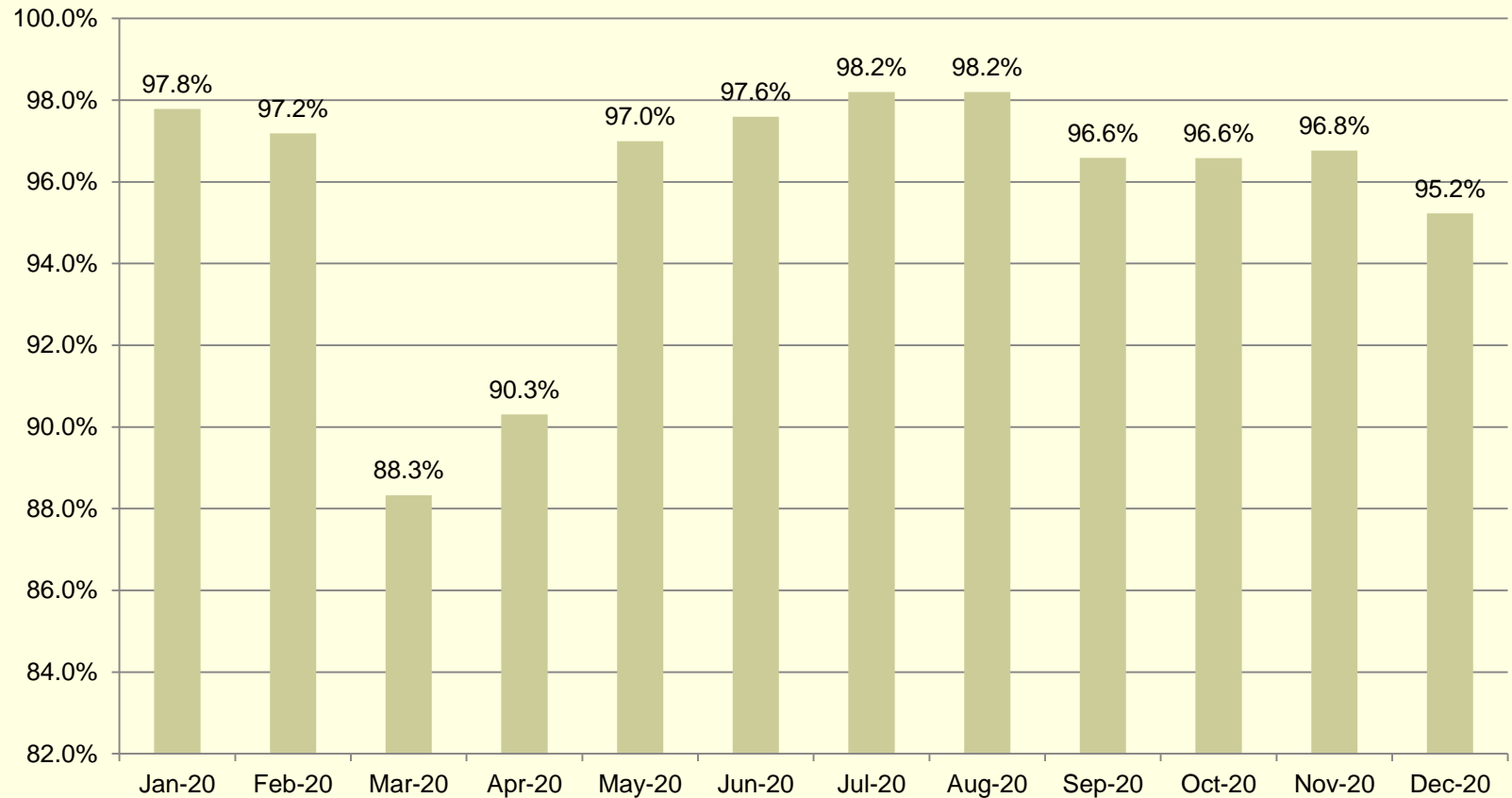
- Collection of prices
- Compilation of the index
- Publishing the indices
- Updating the basket

Collecting prices

- SPPIs are published quarterly, and prices listed are the quarterly average, or a price measured at a point in time during the quarter.
- In order to maintain collection of prices, prices were collected for the period when services were provided during the certain quarter.
- In the first wave of the pandemic, 10th March 2020 to 1st May 2020 prices were collected for January and February reflecting the first quarter of the year, prices for May and June were collected for the second quarter
- Effort to communicate with respondents to ensure continued cooperation
- Adjusting the preferred method and the timing of reporting.
- Stressing the importance of the continued dissemination of a reliable index.
- Data was collected mostly via email, phone, or internet portals
- Virtual meetings instead of visiting companies.

Response rate of the manufacturing PPI in 2020

Response rate manufacturing PPI 2020



Compilation and publication

- Imputations of missing services by using similar service indices that were available, or using the next level-up in aggregation as the basis for making the imputation
- When the service appeared again and a price could be collected, the index returned to the correct level
- Carrying forward, or repeating the last available price, only in exceptional cases where the service was not available at all, and for a limited period (one quarter)
- Temporarily missing services were not replaced by new services
- Temporally closed business were not replaced by new ones
- Metadata on the number of missing and imputed prices posted on the ICBS website

Updating the basket

In contrast to normal periods, when changes in production and consumption occur slowly and allow to update the weights in relatively low frequency, the pandemic caused dramatic changes in those patterns and raised questions about the credibility and accuracy of the indices

Updating the basket

- When to update the basket to reflect the change in the weights of the services? As scheduled or before?
- What year is the correct base year to update the weights?
- To update the entire indices or only make adjustments to reflect the impact on certain services?
- What are the best potential data sources to make optimal estimates?

Updating the basket - Timing

- Updating the index as scheduled or beforehand, in order to represent the changes in the structure of industries accurately, according to the level of change and forecasts for the future
- Is it a temporarily shock or does it have future implications, in changing the patterns of production and consumption for a long period of time.
- Updating of the basket before the time also has implications on budget and causes a burden on respondents, which must be considered.

Updating the basket - Scope

- In order to determine scope, we have to examine data of revenues and prices and identify the products and services that are negatively affected by the situation and prioritize them.
- We must examine trends of prices and revenues to identify services that are affected for short-term, and those that are affected for long-term.
- We must examine detailed information of revenues in order to decide whether and how to update the indices at detail level of Industry and product

Updating the basket - The base year

- Usually when updating the basket, we use a certain year (n-1, n-2) for the distribution of revenues between industries and products, but during the pandemic the volatility of the data and uncertainty required creativity and taking a different approach.
- Using average of 2 or more years
- Changing the weights for certain industries that were affected more badly by the crisis
- Using alternative data sources such as websites, information from research companies and more



Revenue and price trends in Services

2018-2021

Revenues in services 2018-2021

(millions N.I.S) according to VAT Data

H - Transportation and storage, postal and courier activities

Division	Description	Year	Revenue
49	Land transport and transport via pipelines	2018	44,672
		2019	46,448
		2020	41,977
		2021	46,033
51	Air transport	2018	8,459
		2019	8,743
		2020	2,770
		2021	3,658
52	Warehousing and support activities for transportation	2018	39,988
		2019	40,882
		2020	33,921
		2021	40,017
53	Postal and courier activities	2018	4,622
		2019	4,867
		2020	5,433
		2021	6,185

Estimation for 2021 according to the first half of the year

I - Accommodation and food service activities

Division	Description	Year	Revenue
55	Accommodation	2018	15,057
		2019	17,206
		2020	7,442
		2021	7,244
56	Food and beverage service activities	2018	44,163
		2019	46,685
		2020	32,713
		2021	38,048

K, L: Financial and insurance activities, Real estate activities

Division	Description	Year	Revenue
64	Financial service activities, except insurance and pension funding	2018	15,762
		2019	16,868
		2020	16,364
		2021	17,596
65	Insurance, reinsurance and pension funding, except compulsory social security	2018	187
		2019	187
		2020	198
		2021	673
66	Activities auxiliary to financial service and insurance activities	2018	20,396
		2019	20,856
		2020	22,806
		2021	23,841
68	Real estate activities	2018	66,723
		2019	73,131
		2020	67,886
		2021	86,934

J- Information and communication

Division	Description	Year	Revenue
58	Publishing activities	2018	3,721
		2019	3,668
		2020	2,888
		2021	2,894
61	Telecommunications	2018	25,750
		2019	25,610
		2020	24,914
		2021	25,682
62	Computer programming, consultancy and related activities	2018	110,528
		2019	131,234
		2020	153,970
		2021	171,589
63	Information service activities	2018	4,167
		2019	6,794
		2020	7,641
		2021	8,824

M: Professional, scientific and technical activities

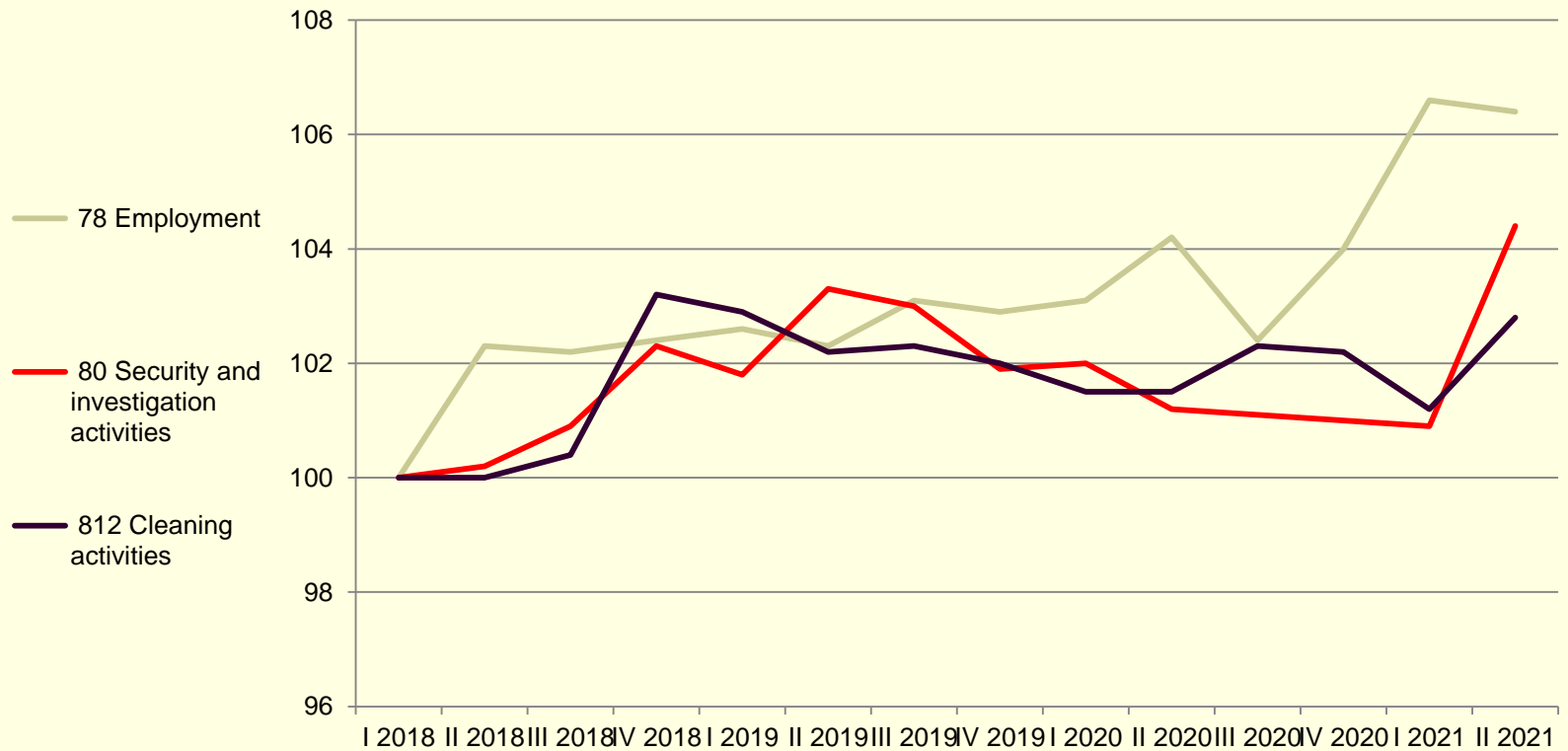
Division	Description	Year	Revenue
69	Legal and accounting activities	2018	29,945
		2019	31,595
		2020	31,619
		2021	34,487
70	Activities of head offices; management consultancy activities	2018	23,349
		2019	24,540
		2020	24,832
		2021	27,937
71	Architectural and engineering activities; technical testing and analysis	2018	31,304
		2019	33,372
		2020	33,838
		2021	34,656
72	Scientific research and development	2018	24,710
		2019	25,194
		2020	29,013
		2021	30,892
73	Advertising and market research	2018	18,553
		2019	19,524
		2020	18,266
		2021	21,333

N :Administrative and support service activities

Division	Description	Year	Revenue
77	Rental and leasing activities	2018	22,988
		2019	23,476
		2020	22,057
		2021	25,664
78	Employment activities	2018	8,019
		2019	8,785
		2020	8,986
		2021	9,531
79	Travel agency, tour operator, reservation service , related activities	2018	17,012
		2019	18,392
		2020	4,577
		2021	3,987
80	Security and investigation activities	2018	6,856
		2019	7,235
		2020	7,053
		2021	7,033
81	Services to buildings and landscape activities	2018	16,917
		2019	17,857
		2020	16,768
		2021	17,825

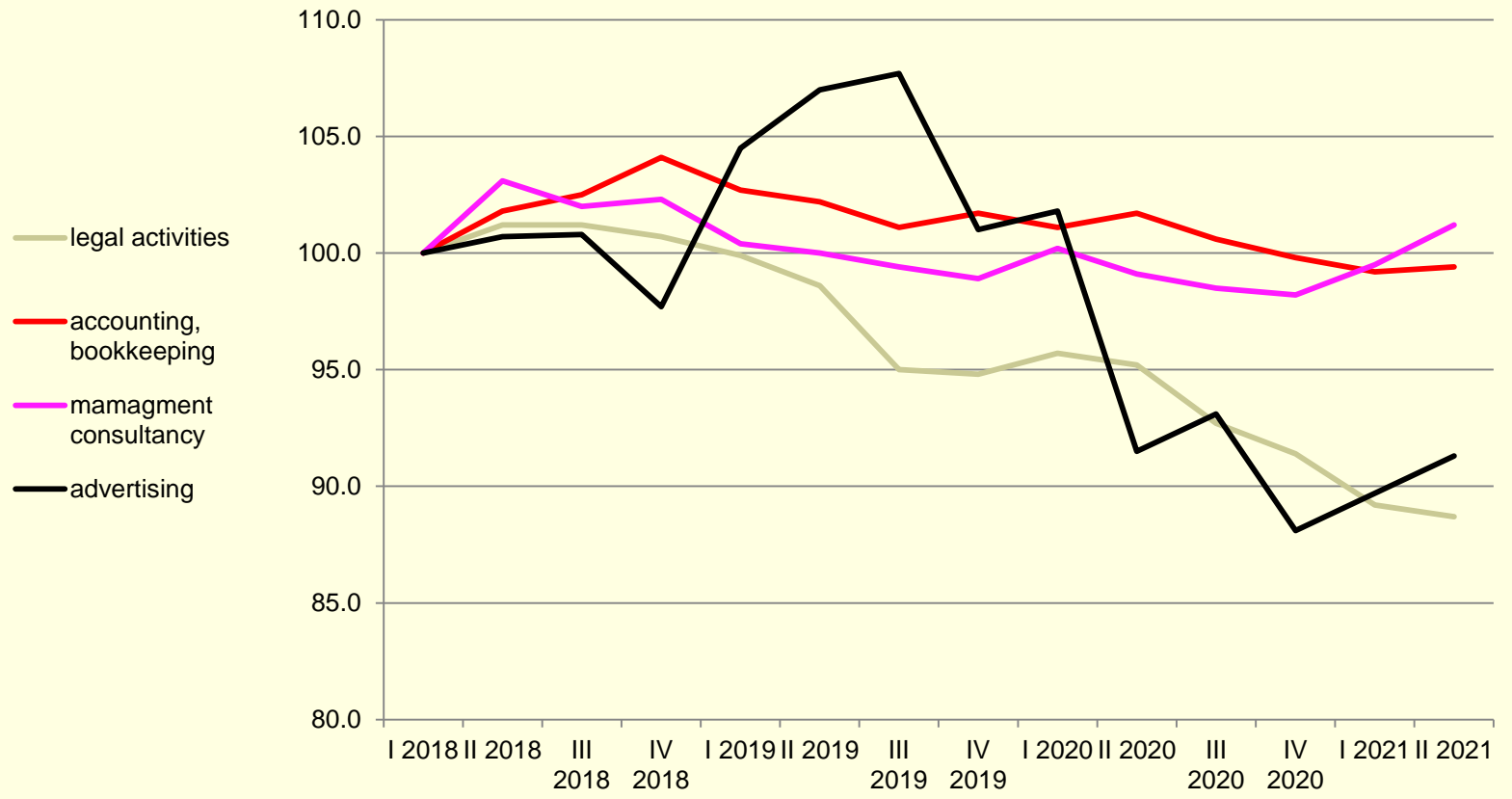
SPPIs

N: Administrative and support service activities



SPPI'S

M: Professional, scientific and technical activities



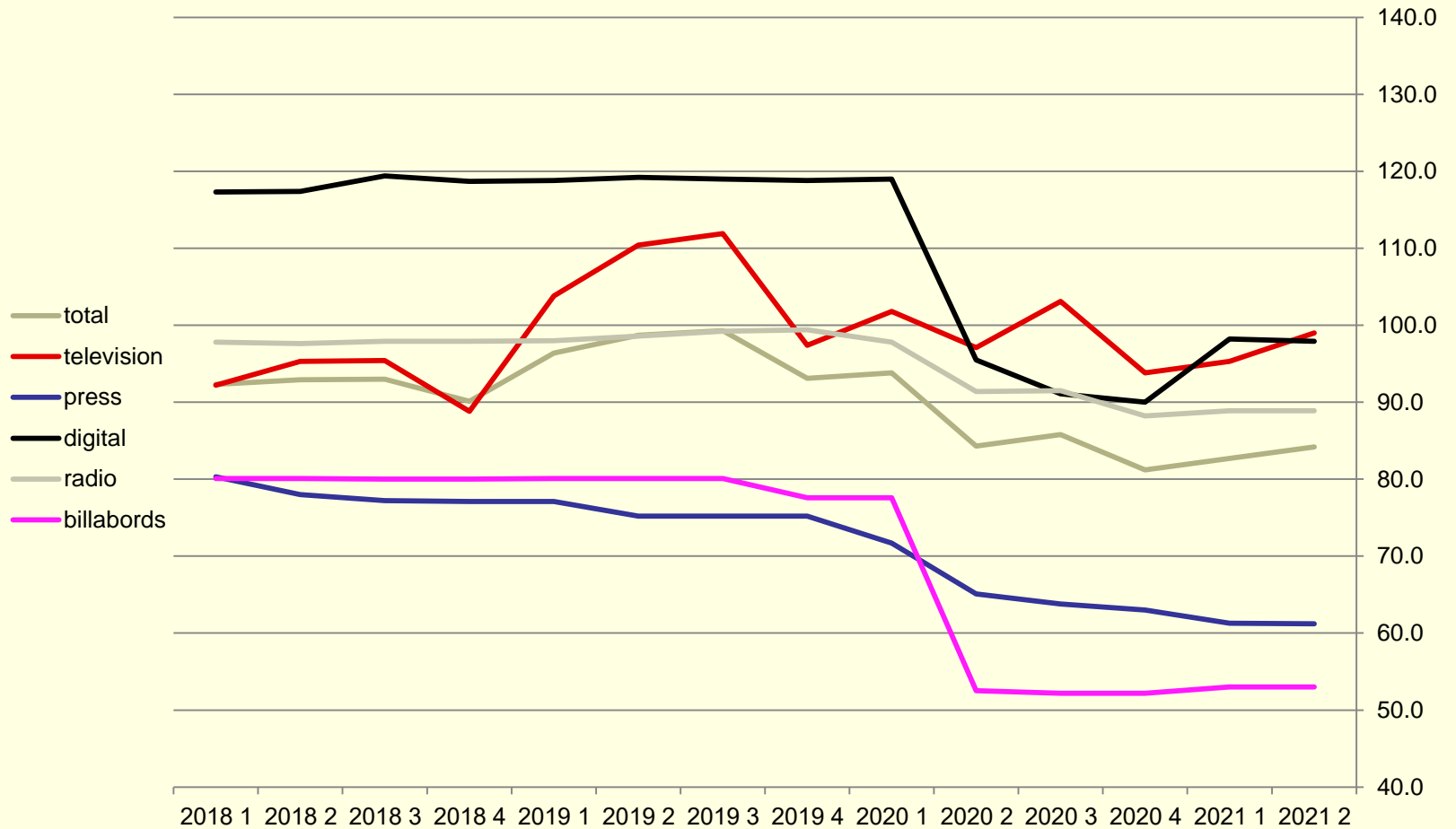
Advertising



SPPI for Advertising

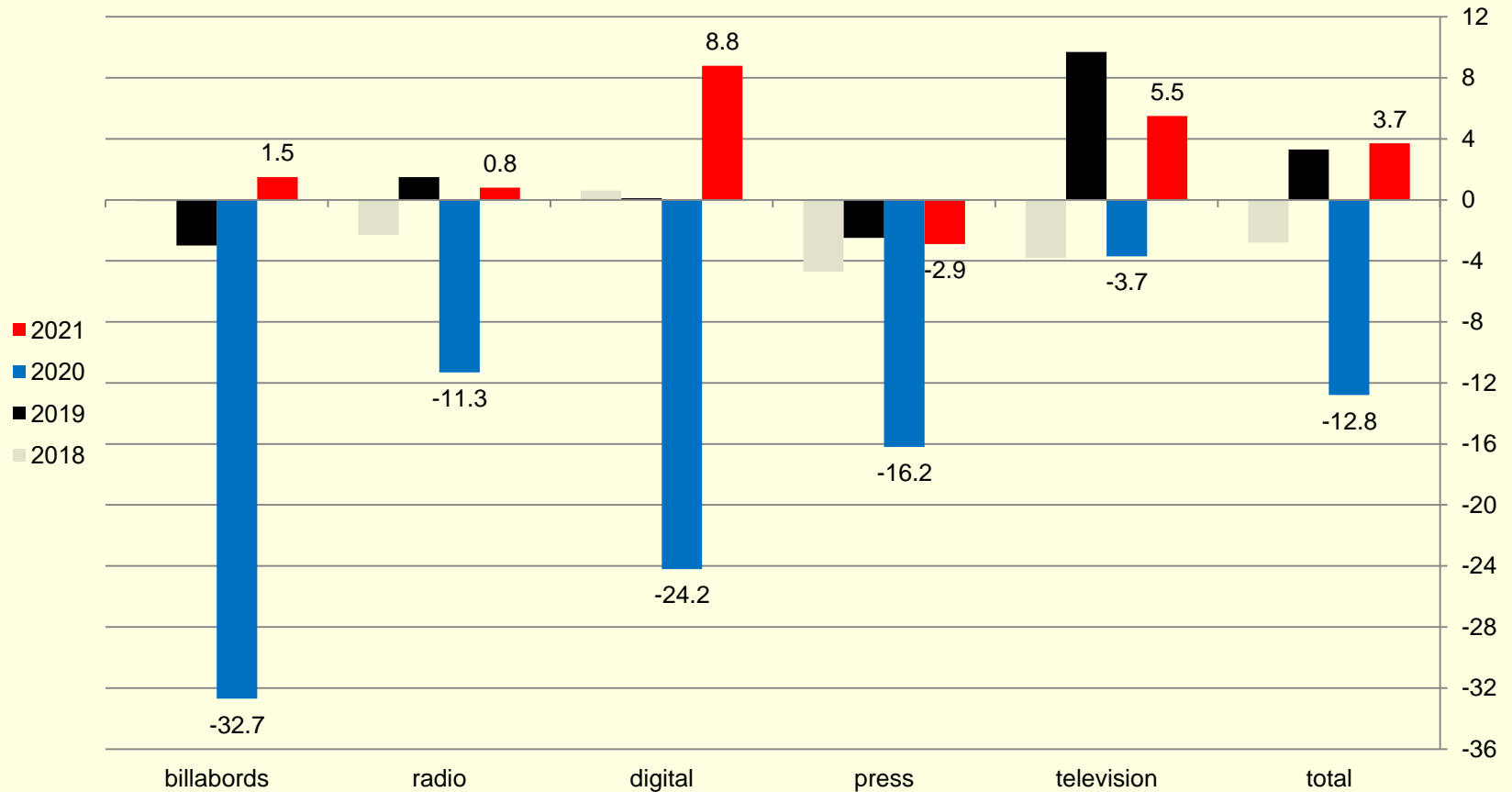
- **Two types of companies:**
 - Media buyers space or time
 - Advertising agencies - working mostly on commission ~ 15% of the price paid for the media space or time
- The prices method is the price for repeated services
- **Main qualifications of the service**
 - Media type: Television, Press, Digital, Radio, Billboards
 - The client
 - Television - broadcasting time (prime-time, semi prime-time, late-night...)
 - Print - ad placement and size
 - Digital - type of ad (CPC, CPM)

SPPIs for Advertising by Media 2018-2021



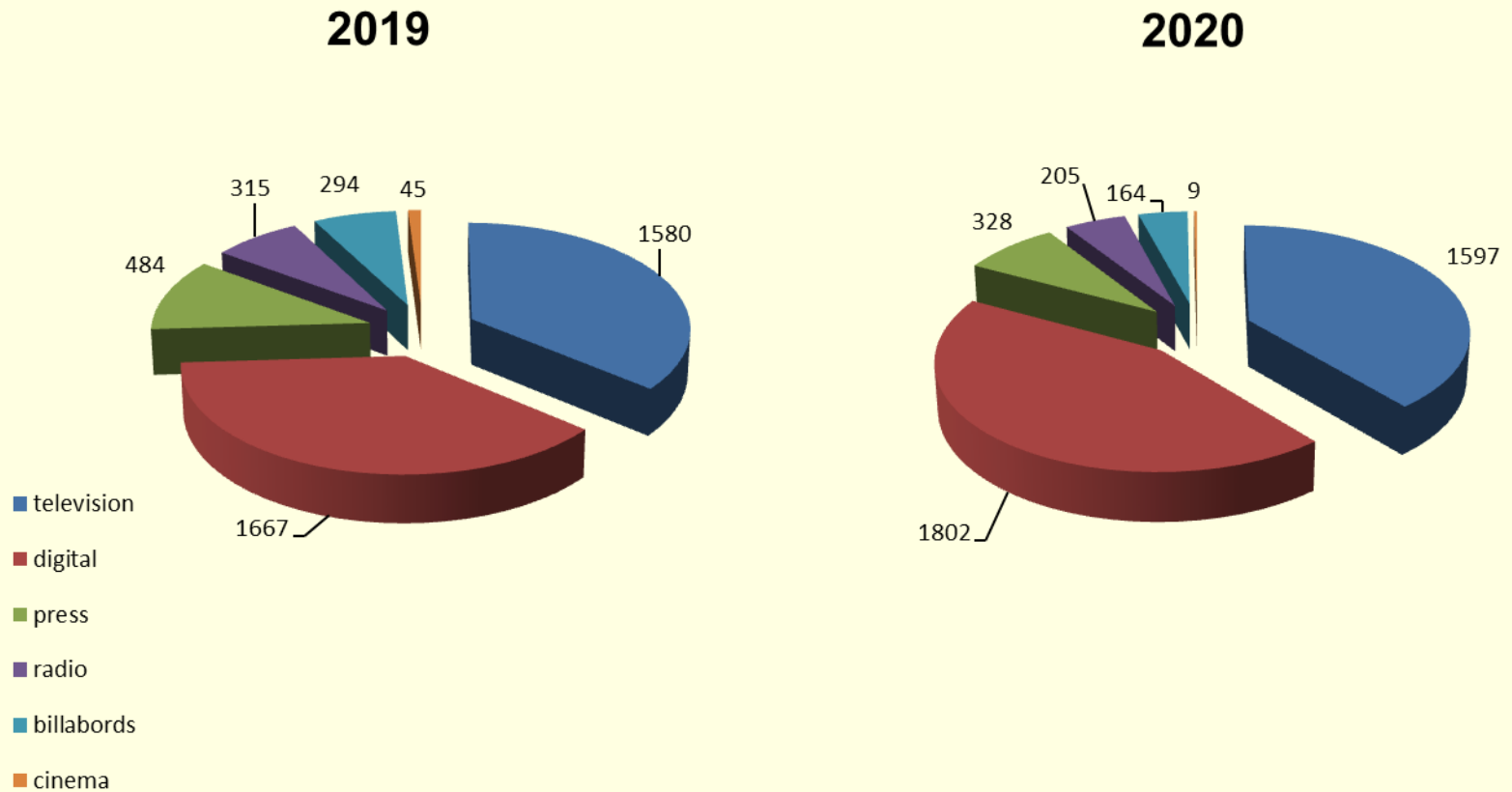
SPPIs for Advertising by Media 2018-2021

annual percentage change



*For 2021 half year percentage change

Advertising Market - Distribution of revenues by media 2019-2020 (Millions N.I.S)






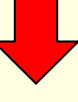
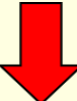
Data - Ifat Media Information

The impact on advertisement industry 2020

- SPPI for Advertisement dropped by 12.8 percent in 2020
- Decline of prices in various medias:
- Billboards - 32.7% ↓
- Digital - 24.2% ↓
- Press - 16.2% ↓
- Radio - 11.3% ↓
- Television - 3.7% ↓

Advertising - impact on revenues 2020

(million N.I.S.)

- Total market decreased by 7.4% from 4,400 to 4,096
- Digital increased by 8.1% 
- Television increased by 1.1% 
- Press decreased by 32.2 % 
- Radio decreased by 35.0% 
- Billboards decreased by 44.2% 

Summary and conclusions

- The Covid-19 pandemic and the lockdowns posed on the population challenge the production of prices statistic in many countries
- Negative, continuous influence on producing CPI in Israel
- Production of PPI and SPPIs was least affected
- SPPIs are published for categories M N and part of J, services relatively less affected from the pandemic or affected but for a shorter time.
- SPPIs are published quarterly, which allows continuity of the index and maintaining response rate
- Collection methods such as email, phone, or internet portals help in keeping the collection routine.
- The challenges are mainly in updating the basket of indices to reflect the changes in the weights of the services

Thank You Very Much!

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