Examination of Changes Experienced in Prices of Goods and Services That Affect Manufacturing Costs in Health Industry for Slovenia

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INTRODUCTION

- Technological advancements in healthcare, particularly in medical devices, significantly contribute to rising health expenditures, with Europe allocating 6.2% and the USA and Japan spending around 5.1% of total health budgets on these devices.[1]
- During the timeframe of 2020-2022, a discernible escalation in prices has been observed across a multitude of industries, attributable to the pervasive impact of the COVID-19 pandemic.[2]
- The aim of this study is to examine the change in prices of goods and services that might affect manufacturing costs in production processes of medical equipment and devices within the field of health technologies.

METHOD

- The study examines price changes of inputs potentially affecting production costs, based on expert opinions. Inputs include raw materials and equipment such as resin, steel, platinum, iridium, palladium, aluminum, corrugated packing material, and semiconductor materials, as well as labor cost index, labor vacancy, shipping (air transportation, vehicle), energy (electricity, natural gas), and real estate.
- Data analysis was conducted using Microsoft Office 360 Excel.
- The base value for input prices was established using data from December 2019, indexed at 100. Monthly prices from December 2019 to December 2022 were adjusted and indexed relative to the December 2019 base. These indexed prices were averaged per month for each input. A general index reflecting the overall pricing trend was computed based on these averages.

RESULTS

The Changes in Raw Material Price between 2019-2022

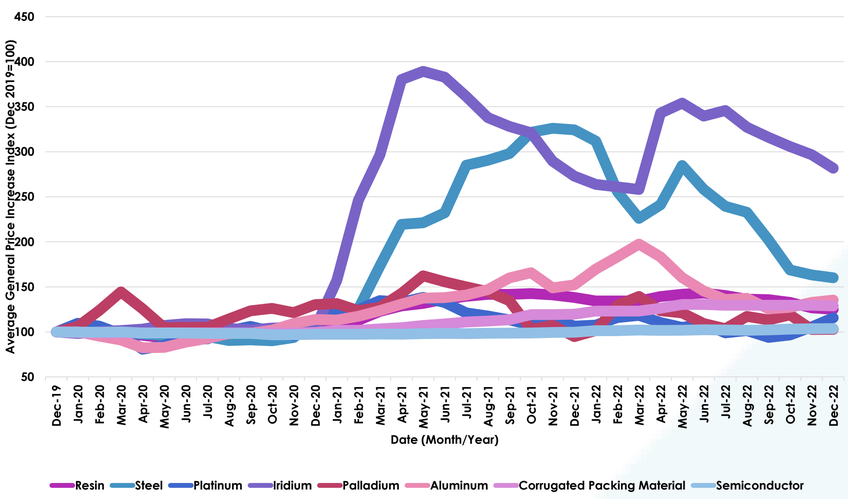
Raw Material	Price Increase (%)
Resin	25.18
Steel	60.12
Platinum	15.64
Iridium	181.69
Palladium	2.82
Aluminum	35.39
Corrugated Packaging Material	28.93
Semiconductors	3.69

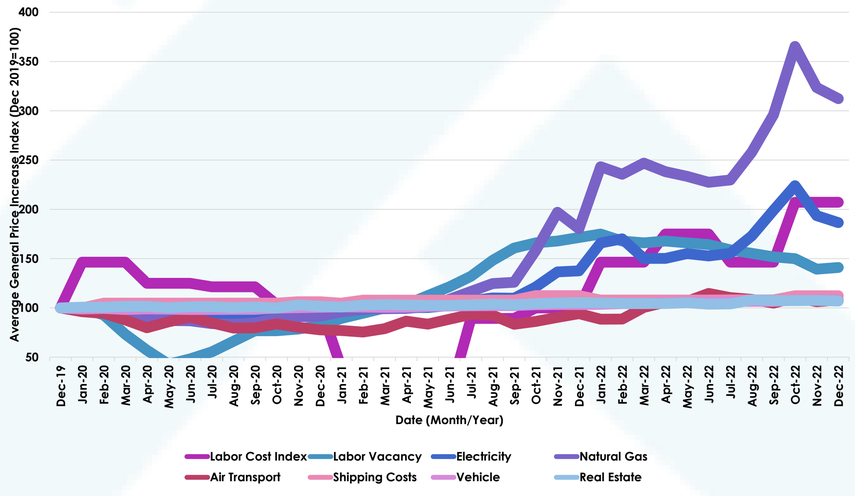
The Changes in Labor, Transportation, Energy and Real Estate Price between 2019-2022

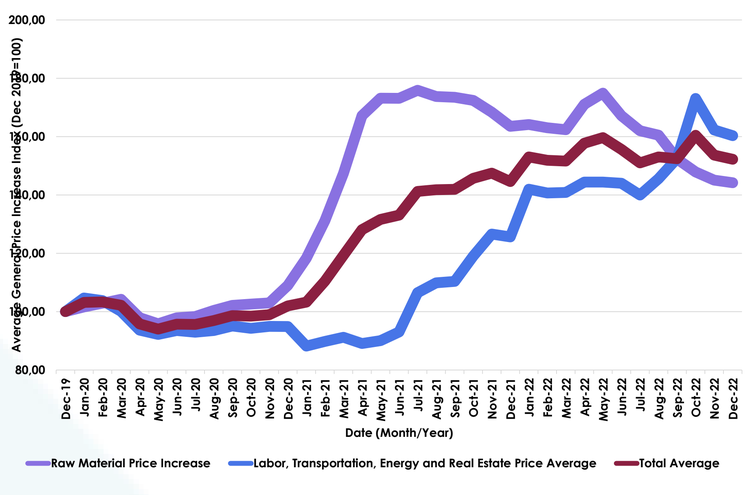
Cost Category	Specific Factor	Price Increase (%)
Labor	Labor Cost Index	107.14
	Labor Vacancy Rates	41.07
Transportation	Air Transportation	7.89
	Shipping Costs	12.36
	Vehicle Expenses	8.55
Energy	Electricity	86.52
	Natural Gas	212.30
Real Estate	Real Estate Expenses	6.89

The Changes in Average General Price for Slovenia's Inputs between 2019-2022

The analytical outcomes signify a predominantly ascending trajectory in input prices at both the international and Slovenian levels, punctuated by notable volatilities. In the timeframe from December 2019 to December 2022, the average rate of increase for international input costs stood at 52.26%, while Slovenia's domestic input costs registered an average increase of 11.98%.







CONCLUSIONS

- Amid the global economic volatility engendered by the COVID-19 pandemic, pronounced elevations in pricing and atypical inflation rates have surfaced as salient challenges across countries, Slovenia included.
- The study reveals marked increases in the cost of critical raw materials indicating an escalation in production costs for medical devices. Labor costs and vacancy rates have also shown significant upswings. Transportation and energy costs have similarly surged, adding another layer of inflationary pressures on the production of medical equipment. These inflationary trends are anticipated to precipitate concomitant elevations in the end-user pricing of health technologies, particularly when denominated in robust currencies such as the USD or EUR. The depreciation of the EU vs. the USD by 4.95%
- In this complex financial landscape, stakeholders in the healthcare technology sector must strategize effectively to maintain their competitive environment. Given these cost escalations, it is imperative for health insurance companies and individual consumers to be prepared for potential subsequent increases in the prices of health technologies.

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Abbreviations: USD: United States Dollar, EUR: Euro

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