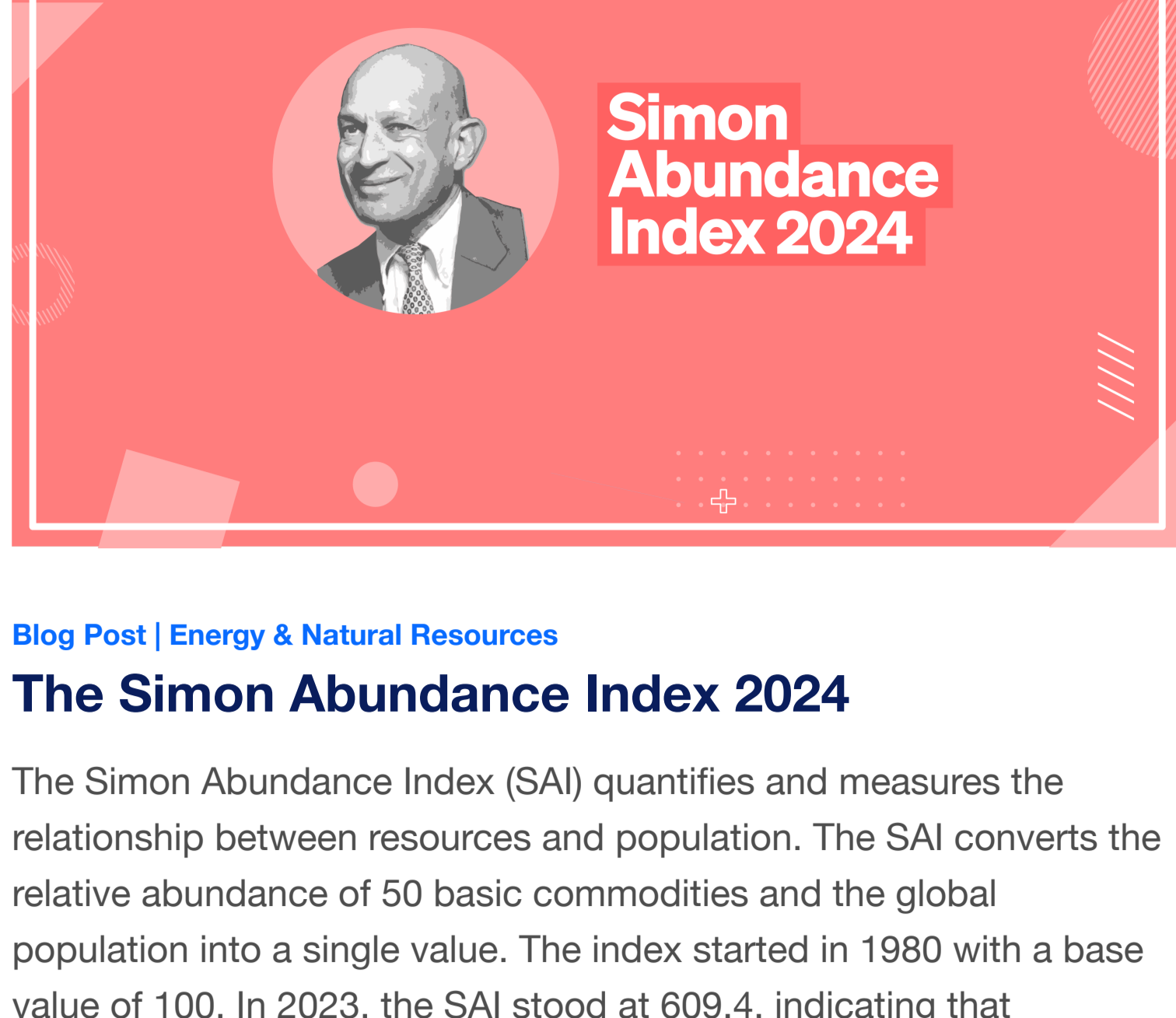


# Human Progress

# DOOMSLAYER

a newsletter that cuts through the gloom

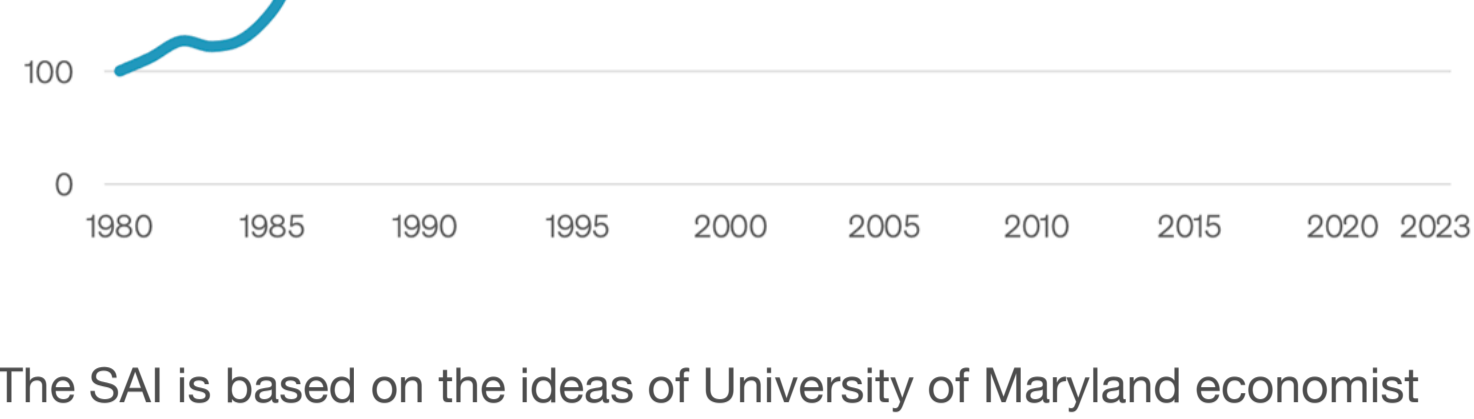


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## The Simon Abundance Index 2024

The Simon Abundance Index (SAI) quantifies and measures the relationship between resources and population. The SAI converts the relative abundance of 50 basic commodities and the global population into a single value. The index started in 1980 with a base value of 100. In 2023, the SAI stood at 609.4, indicating that resources have become 509.4 percent more abundant over the past 43 years. All 50 commodities were more abundant in 2023 than in 1980.

Figure 1: The Simon Abundance Index (1980–2022)



The SAI is based on the ideas of University of Maryland economist and Cato Institute senior fellow Julian Simon, who pioneered research on and analysis of the relationship between population growth and resource abundance. If resources are finite, Simon’s opponents argued, then an increase in population should lead to higher prices and scarcity. Yet Simon discovered through exhaustive research over many years that the opposite was true. As the global population increased, virtually all resources became more abundant. How is that possible?

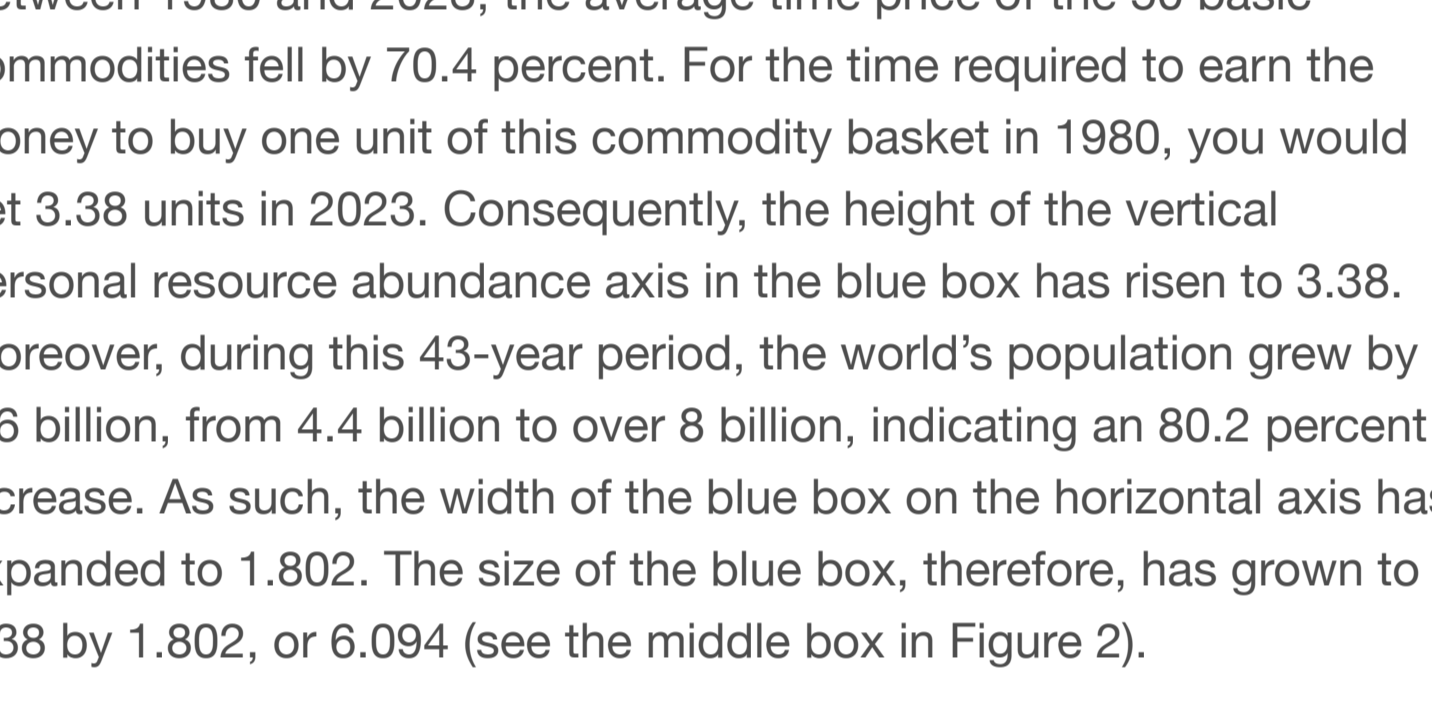
Simon recognized that raw materials without the knowledge of how to use them have no economic value. It is knowledge that transforms raw materials into resources, and new knowledge is potentially limitless. Simon also understood that it is only human beings who discover and create knowledge. Therefore, resources can grow infinitely and indefinitely. In fact, human beings are the ultimate resource.

### Visualizing the Change

Resource abundance can be measured at both the personal level and the population level. We can use a pizza analogy to understand how that works. Personal-level abundance measures the size of an individual pizza slice. Population-level abundance measures the size of the entire pizza pie. The pizza pie can get larger in two ways: the slices can get larger, or the number of slices can increase. Both can happen at the same time.

Growth in resource abundance can be illustrated by comparing two box charts. Create the first chart, representing the population on the horizontal axis and personal resource abundance on the vertical axis. Draw a yellow square to represent the start year of 1980. Index both population and personal resource abundance to a value of one. Then draw a second chart for the end year of 2023. Use blue to distinguish this second chart. Scale it horizontally for the growth in population and vertically for the growth in personal resource abundance from 1980. Finally, overlay the yellow start-year chart on the blue end-year chart to see the difference in resource abundance between 1980 and 2023.

Figure 2: Visualization of the Relationship between Global Population Growth and Personal Resource Abundance of the 50 Basic Commodities (1980–2023)



Between 1980 and 2023, the average time price of the 50 basic commodities fell by 70.4 percent. For the time required to earn the money to buy one unit of this commodity basket in 1980, you would get 3.38 units in 2023. Consequently, the height of the vertical personal resource abundance axis in the blue box has risen to 3.38. Moreover, during this 43-year period, the world’s population grew by 3.6 billion, from 4.4 billion to over 8 billion, indicating an 80.2 percent increase. As such, the width of the blue box on the horizontal axis has expanded to 1.802. The size of the blue box, therefore, has grown to 3.38 by 1.802, or 6.094 (see the middle box in Figure 2).

As the box on the right shows, personal resource abundance grew by 238 percent; the population grew by 80.2 percent. The yellow start box has a size of 1.0, while the blue end box has a size of 6.094. That represents a 509.4 percent increase in population-level resource abundance. Population-level resource abundance grew at a compound annual rate of 4.3 percent over this 43-year period. Also note that every 1-percentage-point increase in population corresponded to a 6.35-percentage-point increase in population-level resource abundance (509.4 ÷ 80.2 = 6.35).

### Individual Commodity Changes: 1980–2023

As noted, the average time price of the 50 basic commodities fell by 70.4 percent between 1980 and 2023. As such, the 50 commodities became 238.1 percent more abundant (on average). Lamb grew most abundant (675.1 percent), while the abundance of coal grew the least (30.7 percent).

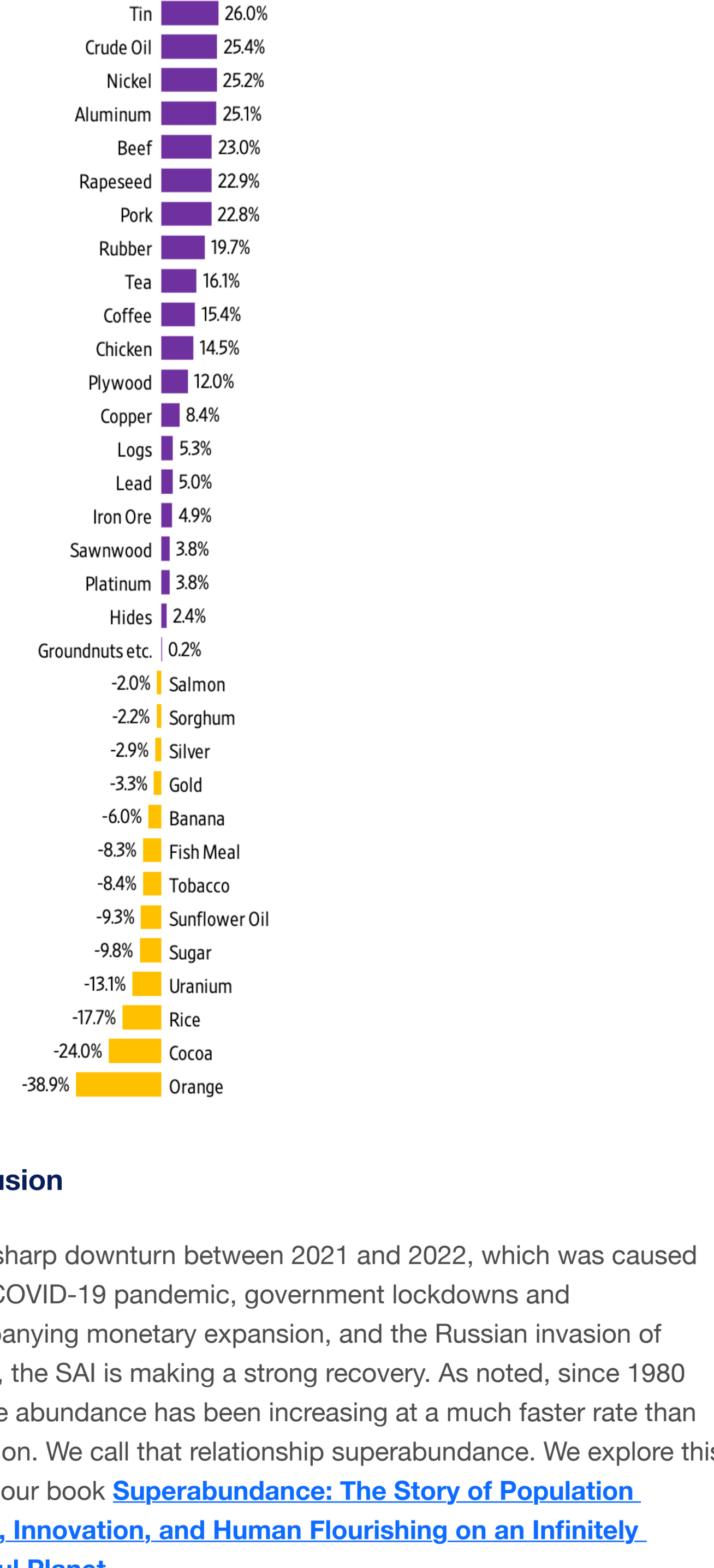
Figure 3: Individual Commodities, Percentage Change in Time Price and Percentage Change in Abundance: 1980–2023



### Individual Commodity Changes: 2022–2023

The SAI increased from a value of 520.1 in 2022 to 609.4 in 2023, indicating a 17.1 percent increase. Over those 12 months, 37 of the 50 commodities in the data set increased in abundance, while 13 decreased in abundance. Abundance ranged from a 220.8 percent increase for natural gas in Europe to a 38.9 percent decrease for oranges.

Figure 4: Individual Commodities, Percentage Change in Abundance: 2022–2023

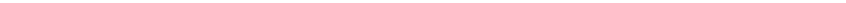


### Conclusion

After a sharp downturn between 2021 and 2022, which was caused by the COVID-19 pandemic, government lockdowns and accompanying monetary expansion, and the Russian invasion of Ukraine, the SAI is making a strong recovery. As noted, since 1980 resource abundance has been increasing at a much faster rate than population. We call that relationship superabundance. We explore this topic in our book [Superabundance: The Story of Population Growth, Innovation, and Human Flourishing on an Infinitely Bountiful Planet](#).

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