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ANALYSIS OF CHANGES IN AVERAGE LABOR COSTS PER UNIT OF OUTPUT IN 2023

Introduction

Unit labour costs (ULC) are a critical yet often overlooked metric in economics, serving as a powerful tool for understanding economic health, productivity, and competitiveness. ULC provide key insights into the efficiency and cost structure of an economy, helping assess inflationary pressures, competitiveness in global markets, and overall productivity.

In macroeconomic analysis, tracking changes in labour costs per unit of output is essential. Specifically, when unit labour costs rise, it often indicates that wages are increasing faster than productivity. Consequently, businesses may pass these higher costs onto consumers through increased prices, contributing to inflation. Conversely, a decrease in ULC can alleviate inflationary pressures.

Moreover, changes in ULC not only affect inflation but also directly impact exchange rates and external market competitiveness. Rising labour costs can lead to higher prices for exported goods, potentially diminishing a country's export potential and reducing its attractiveness for foreign investments.

A common approach to explaining and predicting inflation assumes that prices are determined as a mark-up on firms' costs. Since labour costs constitute a significant portion of total expenses, understanding ULC is vital for comprehending inflation dynamics. Analyzing changes in ULC, alongside nominal wage developments, offers valuable insights into cost pressures within the labour market. Notably, if wage growth results from increased labour productivity, it may not necessitate price adjustments. However, when wage growth outpaces productivity gains, it can lead to higher prices, influencing inflation.

For Uzbekistan, analyzing ULC is essential to ensure sustainable economic growth, effective policy formulation, and successful integration into the global market.

This article delves into the concept of unit labour costs, exploring their significance and impact on economic decisions. It examines the implications of ULC for businesses, policymakers, and investors, with a particular focus on the broader economic landscape. By understanding ULC, stakeholders can better navigate the complexities of economic performance, make informed decisions, and implement policies that promote sustainable growth and competitiveness.

Literature review

In the context of globalization, outsourcing, competitiveness, and production location decisions, labor costs are a critical economic factor. Brück et al. (2004) highlight that the evolution and level of labor costs significantly influence these aspects.

The Vienna Institute for International Economic Studies (wiiw) has played a pivotal role in the research and calculation of Unit Labor Costs (ULC), especially in transition and emerging economies. The methodology developed by wiiw has become a standard for measuring ULC in various countries, including Uzbekistan. According to wiiw's approach, ULC is calculated by dividing total labor costs (LC) by labor productivity (LP), or equivalently, by calculating the labor cost per unit of output. This framework is particularly useful for understanding how changes in labor costs and productivity influence economic competitiveness over time (wiiw, 2021).

The wiiw methodology is widely recognized for its rigorous approach to calculating ULC. It provides a clear picture of the trends in labor costs and their relationship to economic productivity. By incorporating variables such as labor costs per employed person, labor productivity, and economic output, wiiw offers valuable insights into labor market dynamics and their impact on macroeconomic indicators. This makes it an essential tool for policymakers, economists, and researchers analyzing the economic performance of countries, particularly in the context of globalization and regional economic integration.

In the context of Uzbekistan, wiiw's approach to ULC calculation is crucial for assessing the country's competitiveness in global markets. Given Uzbekistan's ongoing labor market reforms and efforts to improve productivity, understanding the dynamics of ULC is essential for formulating effective economic policies. The

methodology helps policymakers gauge whether labor costs are rising disproportionately compared to productivity and adjust policies accordingly. Furthermore, wiiw's focus on both nominal and real ULC (adjusted for inflation) ensures a comprehensive understanding of how labor costs are evolving in relation to price changes and productivity gains (wiiw, 2021).

In addition, studies utilizing wiiw data have explored how rising ULC can influence inflation and external competitiveness. For example, labor cost increases that outpace productivity gains can lead to higher production costs, which are often passed on to consumers in the form of higher prices, thus contributing to inflationary pressures (Gordon, 2014). This relationship between labor costs and inflation is particularly relevant for economies like Uzbekistan, where recent wage increases and labor market reforms have been observed.

Moreover, the wiiw methodology provides a means to assess the **global competitiveness** of countries based on their labor costs and productivity. As labor costs rise faster than productivity, the cost of production increases, which may reduce the international competitiveness of goods and services, potentially harming export potential and foreign investment attraction (Brück et al., 2004). For Uzbekistan, understanding this relationship is vital for ensuring that its economic policies do not inadvertently reduce the country's attractiveness as an investment destination.

Methodology

The analysis is based on quantitative macroeconomic data, primarily covering total labor cost, employment figures, inflation rate, GDP, and labor productivity. The dataset includes time-series data collected annually from 2010 to 2023.

The **Vienna Institute for International Economic Studies (wiiw)** methodology was used to calculate **Unit Labor Cost (ULC)** for Uzbekistan. This approach determines

ULC using the following formula:

$$ULC = \frac{LC}{LP} = \frac{\frac{LC}{OUT}}{EMP}$$

Labor Costs (LC): Represents the **total labor cost per employed person**. This includes wages, salaries, and additional employment-related expenses.

Labor Productivity (LP): Defined as **real output (OUT) per employed person (EMP)**, indicating the efficiency of labor in producing economic output.

✓ Growth (simplified formula):

$$\Delta ULC = \Delta LC - \Delta LP = \Delta LC - \Delta OUT + \Delta EMP \quad (2)$$

In order to maintain competitiveness, labor costs should not grow faster than labor productivity

A country can improve its cost competitiveness by:

✓ decreasing labor costs

✓ increasing productivity

According to (wiiw), there are several methods for calculating Unit Labour Costs (ULC). These methods include measuring ULC per employed person or per hours worked. Additionally, ULC can be calculated for the total economy or specific economic activities. Furthermore, it can be expressed in either nominal terms or adjusted for inflation to reflect real values.

Results and discussions

Between 2010 and 2023, labor costs per unit of output experienced a significant increase, doubling from 0.2 thousand UZS to 0.4 thousand UZS. This notable rise can be attributed to an imbalance between the growth rates of labor costs and labor productivity. Specifically, total labor costs surged approximately 3.8 times over this period, whereas labor productivity, when measured in real terms, increased by only 74%. The disparity between these two factors suggests that rising labor expenses have outpaced efficiency gains, leading to a higher cost of production per unit of output.

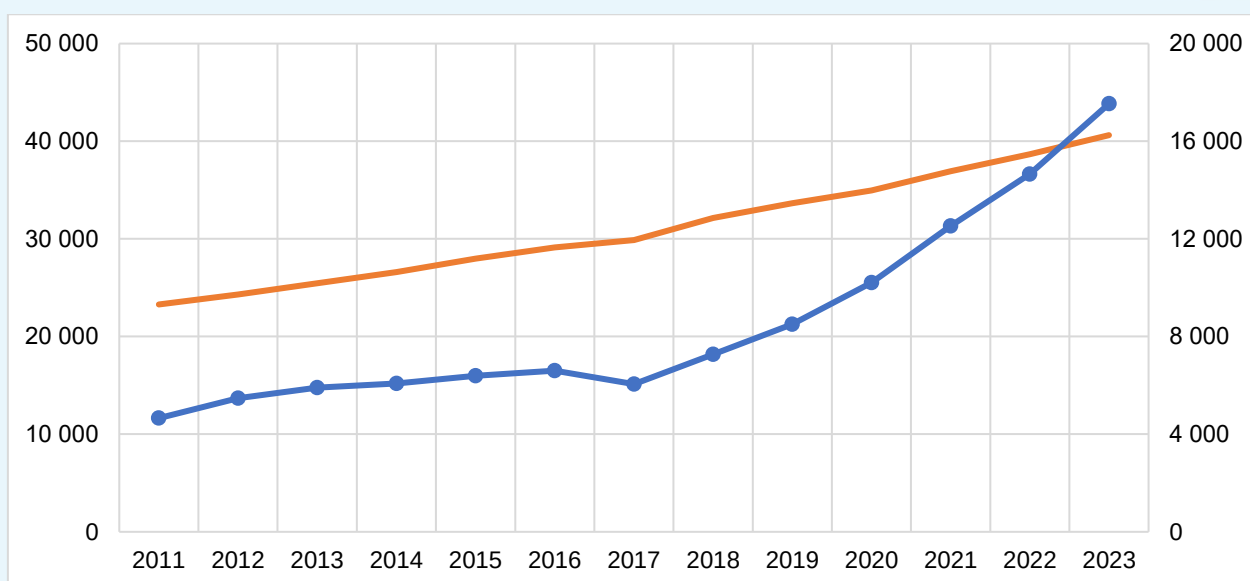
A closer examination of these trends reveals that the rapid escalation in labor costs may have been driven by multiple factors, including wage inflation, changes in labor market policies, and increased demand for skilled labor. On the other hand, the relatively modest growth in labor productivity indicates that improvements in efficiency and technological advancements have not been sufficient to counterbalance the rising labor costs.

The widening gap between labor costs and productivity poses significant implications for the overall competitiveness of industries. If labor expenses continue to rise at a faster rate than productivity, businesses may face mounting pressure to either increase product prices or optimize production processes through automation

and workforce restructuring. Furthermore, these dynamics may influence investment decisions, as firms might seek to allocate resources toward labor-saving technologies to mitigate cost pressures.

In conclusion, the observed increase in labor costs per unit of output highlights the need for strategic policy interventions aimed at enhancing labor productivity. Measures such as skill development programs, technological adoption, and efficiency-driven workplace reforms could help narrow the gap between labor costs and productivity, ensuring sustainable economic growth in the long run.

Figure 1: Dynamics of Labor Productivity and Labor Costs per Worker in Uzbekistan from 2011 to 2023, in thousand UZS (at 2010 prices)

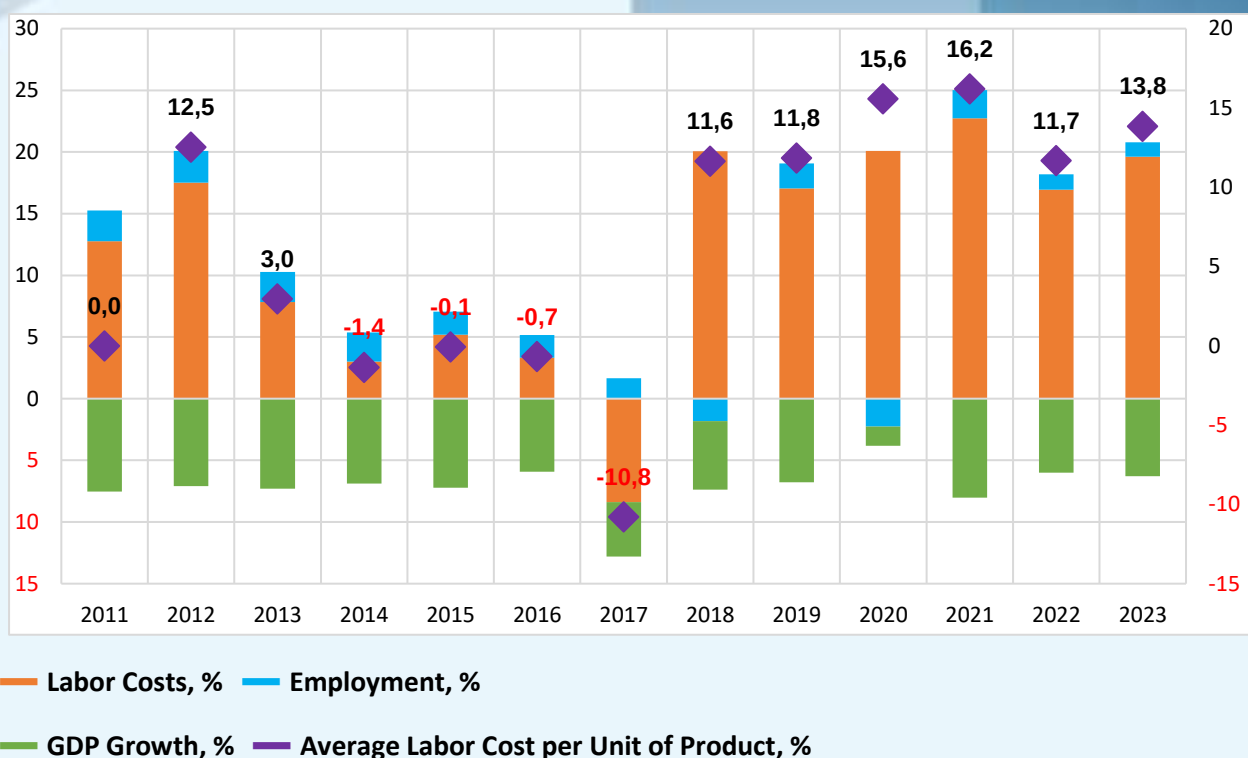


Orange line- Labor productivity **Blue line-** Labor costs per worker (right scale)

Source: Compiled by the author using data from the State Statistics Agency of the Republic of Uzbekistan

Labor costs per worker showed a high growth rate mainly during the years 2018-2023. This was primarily due to the consistent implementation of wage-related reforms in various state sector industries (such as education, healthcare, and other government institutions), as well as a significant increase in salaries in the private sector during this period. Additionally, economic factors such as inflation, rising living costs, and the increasing demand for skilled labor contributed to the overall wage growth. The trend reflects broader efforts to improve the standard of living and enhance workforce productivity in both public and private sectors.

Figure 2: Decomposition of Changes in Labor Costs per Unit of Product in Uzbekistan from 2011 to 2023, %



Source: Compiled by the author using data from the State Statistics Agency of the Republic of Uzbekistan

When decomposing the changes in labor costs per unit of product, it has been determined that this indicator has changed due to three main factors. Firstly, the growth in the employed population and labor expenses has contributed to an increase in labor costs per unit of product. However, GDP growth, as a measure of productivity, has played a crucial role in preventing excessive increases or even reducing this indicator, ensuring a more balanced labor efficiency.

Conclusion

The analysis of unit labor costs (ULC) in Uzbekistan from 2010 to 2023 reveals significant trends that have profound implications for the country's economic health and competitiveness. The notable increase in labor costs per unit of output, driven by a disproportionate rise in labor costs compared to labor productivity, highlights a critical challenge for sustainable economic growth. Over this period, labor costs surged nearly 3.8 times, while labor productivity only grew by 74%. This imbalance suggests that the cost of production is rising faster than efficiency improvements, which can lead to inflationary pressures and diminished international competitiveness.

Several factors contributed to the rapid rise in labor costs, including wage inflation, reforms in the public sector, and increased demand for skilled labor. The increase in labor costs was particularly noticeable in the years 2018-2023, a period marked by significant wage-related reforms and broader economic pressures such as inflation and rising living costs.

From an economic policy perspective, the widening gap between labor costs and productivity underlines the need for targeted interventions. To mitigate rising production costs and ensure long-term economic sustainability, Uzbekistan should focus on improving labor productivity. Strategic initiatives, such as investing in skill development, promoting technological innovation, and fostering efficiency-driven reforms, will be essential in narrowing the productivity-cost gap.

Ultimately, to maintain competitiveness in global markets, it is vital for Uzbekistan to implement policies that encourage both a reduction in labor costs and an increase in productivity. Without these efforts, the rising cost of labor may hinder the country's ability to attract investment and maintain economic growth. Addressing these challenges will be key to securing a robust and sustainable economic future for Uzbekistan.

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