

Research Article

Contribution of Corporate Profits to Inflation in Türkiye after Covid-19

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Abstract: In the wake of the Covid-19 pandemic, there was a major cost of living crisis in the world while corporate profits reached historical records. Terms such as "sellers' inflation", "greedflation" have become increasingly popular all over the world. The debates were not limited to academic circles, but international organizations and political decision-makers also participated in the discussions on "corporate profits and inflation". While Türkiye is experiencing the highest inflation in 2022 in her late history, she remained disconnected with those discussions until very recently. This study sheds light on the developments in inflation and unit profits during the pandemic period in Türkiye by using the GDP deflator decomposition method. This study will be the first attempt in Türkiye in terms of the methodology used. The findings show that the highest contribution to inflation in Türkiye during the pandemic period arose from the increase in unit profits. In this framework, it is seen that the sectors that contribute the most to inflation are the manufacturing industry, transportation, and the trade sectors. Although the GDP deflator decomposition method does not provide information on the causality between inflation and unit profits, the findings suggest that the corporate sector in Türkiye cannot be labeled as a victim of the inflation wave during the pandemic, but rather the gaining from the process. The share of income received by the corporate sector in the pandemic reached an all-time high, while the percentage share received by the employee fell to historic lows.

Keywords: Covid-19, Sellers' Inflation, Corporate Profits, Unit Profit, Unit Labor Cost **Jel Codes:** D3, E3, E6

Covid-19 Sonrası Türkiye'de Şirket Kârlarının Enflasyona Katkısı

Öz: Covid-19 pandemisinin ardından dünyada büyük bir yaşam maliyeti krizi yaşanırken, şirket kârları da rekorlar kırmıştır. Tüm dünyada "satıcıların enflasyonu", "fırsatçıflasyon" gibi kelimeler giderek popüler hale gelmiştir. Tartışmalar sadece akademik çevrelerle sınırlı kalmamış, uluslararası kuruluşlar ve politik karar alıcılar da "şirket kârları ve enflasyon" tartışmalarına katılmıştır. Türkiye, 2022'de yakın tarihinin en yüksek enflasyonunu yaşarken, çok yakın zamana kadar, söz konusu tartışmalara uzak kalmıştır. Bu çalışma GSYH deflatör ayrıştırma yöntemini kullanarak, Türkiye'de pandemi döneminde yaşanan enflasyonla birim kârdaki gelişmelere ışık tutmaya çalışmıştır. Çalışma kullandığı yöntem itibariyle Türkiye'de ilk deneme olacaktır. Elde edilen bulgular pandemi döneminde Türkiye'de gerçekleşen enflasyona en yüksek katkının birim kâr artışından geldiğini göstermektedir. Yine bu çerçevede yurtiçi enflasyona en çok katkı veren sektörlerin, imalat sanayi, ulaştırma ve ticaret sektörleri olduğu tespit edilmiştir. GSYH deflatör ayrıştırma yöntemi enflasyonla birim kâr arasında nedensellik ilişkisi hakkında bilgi vermemekle beraber, bulgular Türkiye'de şirketler kesiminin pandemide yaşanan enflasyon dalgasının mağduru olmadığını, aksine süreçten kârlı çıktığını göstermektedir. Şirketler kesiminin pandemide gelirden aldığı pay tüm zamanların en yüksek seviyesine çıkarken, çalışanların aldığı pay tarihi düşük seviyelere gerilemiştir.

Anahtar Kelimeler: Covid-19, Satıcıların Enflasyonu, Şirket Kârları, Birim Kâr, Birim İşgücü Maliyeti Jel Kodları: D3, E3, E6

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1. Introduction

Following the Covid-19 pandemic and Russian-Ukraine war, the whole world suffered an immense wave of inflation. Global inflation, which averaged 3.5 percent before the pandemic (2017-2019), jumped to 11.6 percent in mid-2022, that is the highest inflation the world has recorded during the second millennium (IMF, 2023, pp.4-5). After the pandemic spike in inflation to historically high levels have attracted the attention of both researchers and policy-makers, and efforts to understand the dynamics behind the rise in global inflation have increased.

Covid-19 drove all economies to uncharted waters. The world's first reaction to the pandemic was naturally the lockdown. The lockdown measures primarily affected global trade in goods and services; while supply chains were disrupted, global transport and logistics costs increased rapidly (Carrière-Swallow et al., 2023, p.1).

Although world manufacturing industry production and trade in goods started to recover in the second half of 2020, Russia's invasion of Ukraine in the first months of 2021 triggered new shocks in global energy and food markets. Demand-stimulating loose fiscal and monetary policies implemented since the first days of the pandemic, combined with supply bottlenecks, the whole world faced a major cost of living crisis (IMF, 2022).

In the aftermath of the pandemic, fluctuations in demand, supply bottlenecks, volatility in commodity prices and movements in interest rates were intertwined, while demand-pull and cost-push price developments were experienced together in the global economy. These intricate simultaneous shocks have also influenced analyses aimed at understanding all these processes. While some of the analyses emphasize demand-pull factors (Furman, 2022; Freund, 2022), others focus on cost-push factors (Carrière-Swallow et al., 2023; Di Giovanni et al., 2022). Some studies have decomposed those different dynamics and attempted to grasp the major determinants of the rise in inflation which dynamic is more determining factor in the rise of inflation (Ha et al., 2023, Firat and Hao, 2023, Binici et al., 2022).

In addition to the macroeconomic dynamics behind the global inflation, efforts to understand the role of microeconomic dynamics have also recently increased. Did the corporate sector try to increase its market power by changing the pricing behavior in response to the pandemic? If there has been such an endeavor, which sectors have taken the lead to this end in particular?

In fact, the increase in the market power of companies is not a newly learned issue. Since the 1980s, it is known that market concentration has increased in developed economies, especially in the USA, and the profit margins of companies have also increased (Loecker et al., 2020, p. 562; Akcigit et al., 2021, p. 5; Eeckhout, 2022, p. 4).

The spike in corporate profits during the pandemic period has made this issue more visible, drawing the attention of not only the researchers but also of the policymakers. As a matter of fact, in early 2022, the Financial Services Committee of the US House of Representatives held a special session titled "The Inflation Equation: Corporate Profiteering, Supply Chain Bottlenecks, COVID-19" and questioned the issue. Again, European Central Bank (ECB) President Lagarde (2023) did not hold back from criticism, pointing out that "two-thirds of the inflation in the euro area in 2022 is due to the increase in the unit profitability of companies, while the contribution of unit profitability to inflation in the previous 20 years was around one-third". The International Monetary Fund (IMF) conducted a study confirming Lagarde and found that the contribution of profits to inflation in the Euro Area in 2022 was 45 percent (Hansen et al., 2023, p. 12). The issue gained popularity all over the world, as the public perception regarding that companies in the developed economies have turned the pandemic into an opportunity came forefront and create terms such as sellers' inflation, greedflation in the economics jargon.²

¹ https://www.congress.gov/event/117th-congress/house-event/114484/text Accessed: 23.12.2023

² "Graaiflatie", the Dutch equivalent of "greedflation", was chosen as the word of the year 2023 in a vote held in the Netherlands. https://www.dutchnews.nl/2023/12/graaiflatie-is-overwhelming-winner-of-word-of-the-year-contest/ Accessed: 22.12.2023

The increase in corporate profits is important not only from the perspective of inflation but also from the point of view of the functional income distribution. One of the indirect indicators of the increase in corporate profits is the increase in the share of gross operating surplus in national income. Following the pandemic, the share of the operating surplus increased in many economies (OECD, 2023, p. 29). In a sense, whether market forces increase or not, this points out that the corporate sector has weathered the difficulties of the pandemic more easily than the employee (Hansen et al. 2023, p. 5).

Inflation in Türkiye, on similar grounds, started to increase with the initial shock of the pandemic. Consumer inflation, which was around 12 percent at the end of 2019, rose to 17.5 percent in mid-2021. Towards the last months of 2021, the monetary policy stance changed in Türkiye: As the policy rate gradually eased, the Turkish Lira started depreciating rapidly. While inflation expectations deteriorated, the upward trend in inflation accelerated. As a matter of fact, consumer inflation reached 36 percent at the end of 2021 and peaked at 85.5 percent in October 2022. As was pointed out before the year 2022 was marked as a year of record-breaking inflation in the world. By the end of 2022, inflation increased by 2.6 percentage points globally and by 3 percentage points in developing and emerging economies, reaching 8.9 and 10.1 percent, respectively. By the end of 2022, consumer inflation in Türkiye had increased by 28 percentage points to 64 percent, a marked divergence from the world and the peer group economies.³

In the aftermath of the pandemic, when the Turkish economy experienced a succession of demand-pull and cost-push shocks from domestic and international sources, a number of questions arise: Did the corporate sector absorb these shocks, or did it pass them on to other economic units? How much have profits and labor costs contributed to inflation in Türkiye? How has the profitability of the corporate sector in Türkiye changed compared to the pre-pandemic period?

The number of studies seeking answers to these and similar questions in Türkiye is still limited. This study aims to support the efforts to find answers to those questions and attempts to expand the discussion ground for further studies.

The sections of the study are as follows: First, the developments in the economic literature and the findings of the studies in the aftermath of the pandemic will be summarized. Then, the data set and the methodology used in the study will be introduced. After sharing the findings, the study will be concluded with a general assessment and conclusion section.

2. Literature Review

In the aftermath of the pandemic, discussions on the possibility that the extraordinary increase in corporate profits could be one of the causes of inflation started with a short op-ed published in a newspaper in the UK, in which the author shared her observations and thoughts (Weber, 2021). Weber (2021) has pointed out that the inflation in the U.S. economy could be caused by increases in the profit margins of real sector companies and proposed "strategic price controls" to control inflation, just like in World War II. The debates have largely been started and stemmed from this proposal.⁴

Predictions that the market concentration already observed in advanced economies may increase further with the pandemic have started to enter the IMF's discussion notes in the first months of 2021 (Akcigit et al., 2021). However, increasing corporate profits and

³ Türkiye's inflation data are taken from TURKSTAT Consumer Price Indices Newsletter. https://data.tuik.gov.tr/Bulten/Index?p=Tuketici-Fiyat-Endeksi-Kasim-2023-49661 Accessed: 21.12.2023

World inflation data are taken from IMF World Economic Outlook Database October 2023 Version. https://www.imf.org/en/Publications/WEO/weo-database/2023/October/weo-

report?a=1&c=001,110,163,119,123,200,903,&s=PCPIEPCH,&sy=2019&ey=2023&ssm=0&scsm=1&scc=0&sd=1&ssc=0&sort=country&ds=,&br=1 Accessed: 21.12.2023

⁴ For an overview of how the debate on this issue developed, see: https://www.newyorker.com/news/persons-of-interest/what-if-were-thinking-about-inflation-all-wrong Accessed: 23.12.2023

their possible links to the inflation did not attract attention until 2022, within the economics literature.

In 2022, as corporate profits in advanced economies set new records, efforts to understand the issue accelerated (Menezes and Quiggin, 2022; Hayes and Jung, 2022, Bivens, 2022). In late 2022, the relationship between corporate profits and inflation attracted the attention of international organizations as well (IMF, 2022, p. 30).

By 2023 the number of studies has increased even further (Glover et al., 2023; Hansen et al., 2023; Arce et al., 2023; Jung and Hayes, 2023; Weber and Wasner, 2023) and the issue made its appearance on the agenda of nearly all the international organizations (OECD, 2023; BIS, 2023; European Commission, 2023).

While market concentration and the market power in the corporate sector have recorded gradual increase since 1980, no major problems had been faced in ensuring price stability. The simultaneous jumps in corporate profits and inflation in the aftermath of the pandemic have brought with them the need to understand the dynamics behind. In this framework, the literature seems to have adopted two different narratives in explaining the relationship between increasing corporate profits and spiking inflation.

First narrative advocated, despite increased production costs due to the supply bottlenecks, disintegrating supply chains following the pandemic, the rapid global recovery and the rapid activation of the pent-up demand in the pandemic with the effect of financial support packages allowed the corporate sector to maintain, and in some cases even increase, profit margins, leading to a jump in inflation (Jung and Hayes, 2023; Arce et al., 2023).

The swift post-pandemic economic recovery and the subsequent high inflation have been surprised both to international organizations and to the whole world (IMF, 2022, p.5). The rapid recovery in demand in this period and the possibility of a change in consumers' demand elasticity due to the fiscal support packages announced in the pandemic may have allowed the corporate sector to maintain or even increase their profit margins. Another explanation it could be the rising inflationary expectations due to the combination of post-pandemic supply bottlenecks and buoyant demand masking the efforts of the corporate sector to increase profit margins (Jung and Hayes, 2023, p. 13).

In advanced economies, already increasing market concentration in the corporate sector combined with strong demand is likely to hike the power of corporations to set prices. As a matter of fact, theoretical findings after the pandemic suggest that firms with high price influencing power may have the ability to increase the price impact of demand shocks (Menezes and Quiggin, 2022, p. 7).

Although attempts to connecting corporate profitability to buoyant demand and changing consumer behavior in the explanation of inflation seem plausible, there are also other views in the literature. Glover et al. (2023, pp.29-33) find that the profit margins of real sector companies in the US economy increased as of 2021, but the profit margins declined in the first half of 2022, despite the increase in inflation. In the same study, it was concluded that although the prices of durable consumer goods increased significantly due to changing consumer preferences and increasing demand after the pandemic, there was no significant increase in the profit margins of the manufacturing industry, which includes durable goods sector, compared to other sectors. Glover et al. (2023, p. 30) therefore conclude that it would not be correct to attribute the increase in firms' profit margins solely to strong demand and that firms may have adopted such a pricing strategy in 2021, to smooth price increases they expect in the future.

An alternative narrative for explaining the simultaneous jump in corporate profits and inflation was developed by Weber and Wasner (2023). The narrative rested on the question of is it possible that the supply bottlenecks in the pandemic have led firms in certain sectors of systemic importance to adopt a common understanding of price increases, with normally competitive companies behaving like monopolists? Weber and Wasner (2023) have been thinking that this is possible, but some certain steps are needed for spreading price increases to whole economy. In this framework, in the first stage, due

to a supply shock in sectors of systemic importance (e.g. energy), price increases start with the emergence of an impulse to increase prices in all companies. As the increase in costs spreads to other sectors (propagation -amplification), price increases accelerate and then the conflict phase begins. That is, the struggle of the labor force to compensate for real wage losses and consequently return of firms to the first and second stages (Weber and Wasner, 2023, p. 187).

During the pandemic, with Russia's invasion of Ukraine, the companies whose profit margins and profitability increased the most were largely those operating in the energy and mining sectors. In this context, another possibility that cannot be disregarded, in the face of an unexpected supply shock, the inability of companies to increase their production capacity at the same pace may lead to higher prices and windfall profits in these sectors (Hayes and Jung, 2022).

In the literature, it is possible to summarize the general narrative and conceptual framework to explain the increase in corporate profits after the pandemic and its relationship with inflation in this way. The data and methods used in empirical studies on the relationship between corporate profits and inflation can also be categorized in two different groups.

In this framework, the first group of studies consists of analyses that attempt to measure the contribution of unit profits and unit labor costs to domestic inflation by using the income method of GDP and the GDP deflator decomposition method (Arce et al., 2023; OECD, 2023; BIS, 2023; European Commission, 2023).

The second group includes analyses that try to estimate the change in firms' profit margins pre and post the pandemic period using firm-level data (Hayes and Jung, 2022; IMF, 2022; Glover et al., 2023).

According to the findings of the first group of studies, for many economies in the post pandemic period, the contribution of unit profits to domestic inflation was higher than the contribution of unit labor costs (OECD, 2023, p.28, ONS, 2023, p.15). The results also indicate that this is an important distinction from the oil crises of the 1970s and the wave of inflation following. While the contribution of unit labor costs to domestic inflation was higher during the inflation wave of the 1970s, the contribution of unit profits to inflation increased during the pandemic (OECD, 2023, p.27, Hansen et al., 2023, p.9).

Most of the studies in the second group indicate that profit margins in real sector companies increased during the pandemic (Weber and Wasner, 2023, p.184; Hayes and Jung, 2022, pp.5-7). A different assessment on this issue belongs to the IMF. In its analysis for advanced economies, IMF (2022, pp.30-31) concluded that although there was a historical upward trend in corporate profit margins before the pandemic, there was no widespread increase in profit margins and even decline in some economies in the 2020-2021 period. The IMF attributed this to the possibility that the corporate sector, which has already entered the pandemic with high profit margins, would absorb some of the increase in costs.

Efforts to analyze the relationship between corporate profits and inflation in the wake of the pandemic have revealed two major challenges, one practical and the other one theoretical, that researchers are to overcome.

The practical problem that researchers face with is related to data constraints and how to measure corporate profitability most accurately. Indeed, ECB President Lagarde underlined this problem and acknowledged that "we don't have as much and as good data on profit as we do on wages" (cited in Weber, 2023).

Another problem that researchers had to face with after the pandemic was the lack of knowledge in the economics discipline itself. It was revealed that a possible "profit-price spiral" and the mechanisms of its formation had not been studied much in the economic literature before the pandemic. The literature has mostly analyzed the cost-push inflation dynamics within the framework of the "wage-price spiral". In this framework, it is a well-known and well-studied mechanism in the literature that the desire of employees to increase their real wages in the face of a supply shock can trigger a cost-push inflation

by initiating a wage-price spiral (Blanchard, 1986, p.543). Indeed, in the early stages of the recovery from the pandemic, the rapid activation of pent-up demand, labor market bottlenecks, and the resulting wage increases were a matter of concern that could lead to a wage-price spiral (Boissay et al, 2022).

Developments up to 2023 did not justify this concern. After the pandemic, labor's share of national income declined, while corporate profitability and share of income increased. However, this does not mean that the wage-price spiral will not come into play in the period ahead. Indeed, while Weber and Wasner (2023, p.187) consider the triggering of a wage-price spiral unlikely for the US economy, given the weakened position of labor organizations, Arce et al. (2023) do not exclude this possibility for Europe.

In conclusion, the discussions and preliminary findings following the pandemic provide evidence that firms may pass on cost increases to consumers and even contribute to inflation by increasing profit margins due to extraordinary supply and demand shocks. However, in the aftermath of the pandemic, it has become clear that there is a significant knowledge gap in this regard. As a matter of fact, it is observed that efforts to fill the gaps in the literature by creating a new research agenda are accelerating (Jung and Hayes, 2023).

In Türkiye, the number of analyses investigating the relationship between corporate profits and inflation in the aftermath of the pandemic is extremely limited as of the time of this study. An exceptional study in this framework was conducted by Yeldan et al. (2023). According to the study analyzing the development of sectoral profit margins and producer prices, the profit margins for the Turkish economy increased from 14 percent in 2015 to 21 percent in 2021. In the same period, the profit margins in the industrial sector increased from 12 percent to 19 percent. According to the findings of the analysis, sectoral profit margins increase over time and move in tandem with producer inflation. The same study also analyzed the course of sectoral profits in the value added. It was concluded that the share of profits in the value added in all non-agricultural sectors in Türkiye increased from 47 percent to 62 percent in the 2015-2021 period (Yeldan et al., 2023, pp.21-22). This study, which covers the first two years of the pandemic period, could not make an assessment for 2022 due to data limitations.

Preliminary findings indicate that sectoral profit margins increased in Türkiye in the first two years of the pandemic. However, more studies are needed on this issue. This study is one of the limited number of attempts to understand the relationship between corporate profits and inflation in Türkiye with different data and methods. This will be a first attempt in terms of the method it uses.

3. Methodology and Data

The "GDP deflator decomposition method", which is frequently preferred by the economics literature and international organizations, is used in this study. GDP is the sum of the value of all goods and services created by the productive units in an economy because of their economic activities in a given period, minus the sum of inputs used in the production of these goods and services. From an income perspective, it consists of wage and salary income earned by the productive units in the economy during the production process, business profits and various tax burdens collected by the state (TURKSTAT, 2022, pp.4-5).

Knowing the incomes of employees and enterprises involved in production allows researchers to examine changes in "unit labor cost" and "unit profit" indicators. In this framework, GDP in terms of income can be expressed as follows:

$$GDP = Gross\ Value\ Added + Net\ Taxes\ on\ Product\ and\ Production\ (NT)$$
 (1)

$$GDP = Compensation \ of \ Employees (W) + Gross \ Operating \ Surplus (P) + NT$$
 (2)

Using equation (2), the GDP deflator can be expressed as the sum of "unit labor cost", "unit profit" and "unit net taxes" as follows:

$$GDP/GDP^{Real} = GDP \ deflator = W/GDP^{Real} + P/GDP^{Real} + NT/GDP^{Real}$$
 (3)

(4)

In equation (1), "net taxes on products and production" are the sum of taxes paid on the production, delivery and transfer of goods and services and import duties payable when goods and services are delivered by non-resident units to resident units, subtracted subsidies.

In equation (2), "compensation of employees" comprise wages and salaries paid to employees in cash or in kind and social security contributions paid by employers on behalf of employees. In the same equation, the size of "gross operating surplus" is calculated by deducting payments to labor force and taxes on production from gross value added and adding subsidies. It refers to the share of capital in the value added (TURKSTAT, 2022, p.9). The reason why the operating surplus taken in gross terms is that consumption of fixed capital is not deducted.

As can be seen from equation (3), the implied price deflator used in GDP calculations is GDP at current prices divided by real GDP. Consequently, based on equation (4), the GDP deflator is the sum of the incomes received by factors of production for one unit of real GDP.

In this case:

"Unit labor cost" is the wage and salary received by employees for one unit of real GDP, "Unit profit" refers to the profits received by enterprises for one unit of real GDP,

"Unit net tax" represents the net tax revenues received by the government for one unit of real GDP.

The GDP price deflator, by definition, shows changes in the prices of domestically produced goods and services and reflects "domestic inflation" in its broadest form.⁵ In this respect, it differs from the consumer price index, which only measures the change in the prices of goods and services subject to consumption in the market.

The deflator decomposition method is an accounting exercise using GDP data, which is the most important data in the national accounts system of countries. However, this method does not provide information on the causality between corporate profits and inflation (Hansen et al. 2023, p. 7). In other words, based on the deflator decomposition method, it is not possible to say that "inflation increased due to the increases in labor costs and/or profits". Indeed, contributions to domestic inflation do not necessarily imply that inflation is high because labor costs and/or profits have increased, as any change in labor and capital income might be reflecting a response to higher inflation, especially in cases of external shocks (ONS, 2023, pp. 2- 4). Again, an increase in the contribution of firms' unit profitability to inflation does not necessarily imply an increase in firms' profit margins (Colonna et al., 2023, p.10; Hansen et al., 2023, p. 13).6

Nevertheless, the deflator decomposition method provides very important information for understanding the change in the contribution of factor income to domestic inflation or for interpreting the effects of inflation on these factor incomes. Moreover, as a result of these exercises, it is extremely important to know who bears the burden of inflation in a pandemic in order to guide future policies.

In this study, TURKSTAT's "independent annual GDP data" are used. There are two separate reasons behind this. Unlike quarterly estimates, independent annual GDP is calculated based on finalized data. The second and more important reason is that factor incomes, disaggregated by economic activity, are presented only in annual independent GDP data. This sectoral disaggregation is important for the analysis of this study. Thus, only after identifying the factor that contributes the most to domestic inflation, it was possible to analyze the developments in its sectoral breakdown. For the independent annual

⁵ Therefore, for ease of expression, the increase in the GDP deflator will be referred to as "domestic inflation" in the following sections of the study.

⁶ The usual approach to profitability in economics is to add a certain profit margin to marginal cost (MC). Assuming that firms set a fixed profit margin (μ), the price faced by the consumer, $P = (1 + \mu).MC$. "Unit profit (Δ)" can also be expressed as the difference between the price of the product and MC. $\Delta = P - MC \Rightarrow \Delta = (1 + \mu).MC - MC$ and $\Delta = \mu.MC$. In this case, even if the firm's profit margin does not change, "unit profit" may increase due to the increase in MC. For a more detailed analysis on this issue (Colonna et al., 2023)

GDP, the first observation year is 1998 and the last observation year is 2022. 2022 is a period of significant increase in corporate profitability in Türkiye as in the rest of the world.⁷

4. Results of the Study

Viewing the relative developments in unit profit and labor cost in Türkiye since 1998, it seems likely to divide the current series into three sub-periods. The first one is the 1998-2008 period when unit profit and unit labor cost moved largely in line. The second sub-period is the 2009-2016 period, during which the unit labor cost increased relatively faster. The third sub-period is 2017-2022, when the relative position of unit profit advanced compared to that of the unit labor cost (see Figure 1). When the analysis focuses on the more recent period, the following the year 2017, the breakout moments in unit profit and unit labor cost series with the Covid-19 pandemic is much more easily detected (See Figure 2).

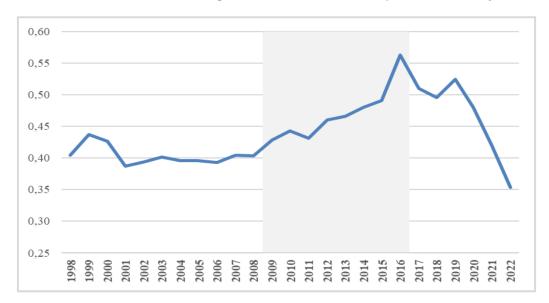


Figure 1. Ratio of Unit Labor Cost to Unit Profit

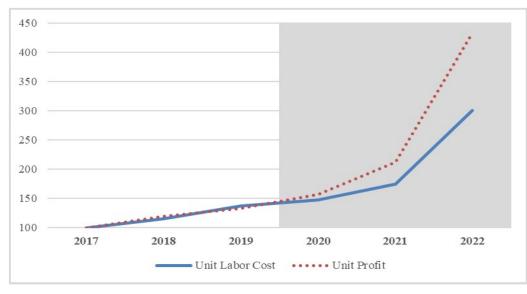


Figure 2. Unit Labor Cost and Unit Profit (2017=100)

⁷ For example, the number of profit-generating manufacturing institutions in the ISO 500 according to "profit and loss before tax" increased from 405 to 442 in 2022. This is the highest number of profit-generating institutions after 2007 (ISO-500, 2023, p.78)

During the Covid-19 pandemic and the period that followed (2020-2022), "domestic inflation" in Türkiye averaged 47 percent. The contribution to this inflation rate from the unit profits increase is estimated to be around 33 percentage points. In other words, 70 percent of the average domestic inflation during the pandemic period was constituted by the increase in unit profits. In the 1999-2009 and 2010-2019 periods, the contribution of unit profits to average domestic inflation were 62 percent and 56 percent, respectively (See Figure 3).

The record for domestic inflation was set in 2022 by 96 percent. The 67 percentage points (or 69 percent) of the record inflation rate set in 2022 could be again attributed to the increase in unit profits. The findings show that the largest contribution to inflation during the pandemic period stemmed from the increase in unit profits. This is broadly consistent with the results obtained for the other economies (OECD, 2023; European Commission, 2023).

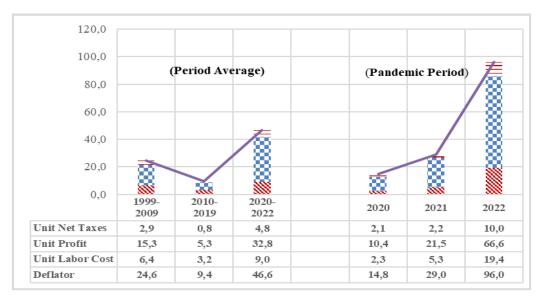


Figure 3. Contributions to Domestic Inflation (% points)

The rise in unit labor costs contributed 26 percent and 34 percent to average domestic inflation in the 1999-2009 and 2010-2019 periods, respectively. In the 2020-2022 period, its contribution to inflation declined to 20 percent. In 2022, the contribution from unit labor costs to domestic inflation increased relatively but remained low compared to the contribution of unit profits to inflation.

During the pandemic period, the contribution to inflation from unit net taxes was not changed significantly compared to past performances. The contribution of this component to domestic inflation in the 2020-2022 period hovering around 10 percent level.

The results of the analysis show that the largest contribution to domestic price formation during the pandemic period came from the increase in firms' unit profits. In this case, it is important to learn which sector or sectors stand out in the contribution to domestic inflation.

In order to sheds light on this issue, the contribution of unit profit increases in economic activity branches to domestic inflation is also analyzed. In this framework, the contribution of sectors' unit profits to domestic inflation in the past period (2010-2019) is compared with their contribution during the pandemic. In the pandemic period, the sectors that contributed the most to domestic inflation with the increase in unit profitability were "manufacturing industry", "transportation-storage" and "wholesale-retail trade" (See Table 1 and Figure 4). Unit profit increases in these three sectors contributed over 40 percent to domestic inflation during the pandemic.

Table 1. Contribution of Sectoral Unit Profits to Inflation (% points) (*)

	2010- 2019	2020-2022	2020	2021	2022
Domestic inflation	9.4	46.6	14.8	29.0	96.0
Total	5.3	32.8	10.4	21.5	66.6
A_ Agriculture, forestry and fishing	0.4	2.9	1.2	0.5	7.1
B_ Mining and quarrying	0.1	0.6	0.2	0.5	1.1
C_Manufacturing	1.3	9.4	3.2	8.3	16.7
D_ Electricity, gas, steam and air conditioning supply	0.1	1.0	0.3	0.3	2.4
E_ Water supply, sewerage, waste management					
and remediation act.	0.1	0.3	0.0	0.3	0.6
F_ Construction	0.5	1.7	0.6	0.9	3.5
G_ Wholesale and retail trade	0.8	5.3	1.5	3.6	10.8
H_ Transport, storage	0.5	4.5	0.9	3.3	9.3
I_ Accommodation and food service activities	0.2	1.0	-0.6	1.0	2.5
J_ Information and communication	0.2	0.8	0.5	0.6	1.3
K_ Financial and insurance activities	0.1	1.3	1.0	-0.2	2.9
L_ Real estate activities	0.3	1.0	0.6	0.1	2.2
M_ Professional, scientific and technical activities	0.1	0.6	0.2	0.4	1.2
N_ Administrative and support service activities	0.2	0.7	-0.2	0.5	1.7
O_ Public administration and defense;					
compulsory social security	0.1	0.4	0.2	0.2	0.9
P_ Education	0.1	0.3	0.2	0.1	0.6
Q_ Human health and social work activities	0.0	0.4	0.2	0.3	0.6
R_ Arts, entertainment and recreation	0.1	0.6	0.4	0.5	0.9
S_ Other service activities	0.0	0.2	0.0	0.2	0.3

Note: The sum of sectoral contributions may differ due to rounding of figures.

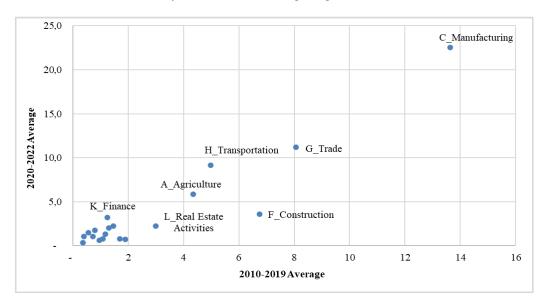


Figure 4. Contribution of Sectoral Unit Profits to Domestic Inflation (As Percentage Contribution)

The results of the study show that the highest increase in unit profits during the pandemic turned out to be in the "electricity, gas, steam and air conditioning" sector (see Table 2). Compared to the 2010-2019 period, although the contribution of this sector to domestic inflation increased, its impact on inflation remained limited compared to other sectors due to its low weight in gross operating surplus. The same is true for the "mining and quarrying" sector. The unit profit of these two sectors contributed 3.4 percent to domestic inflation during the pandemic. On the other hand, the contribution of the unit profit of the finance and insurance sector to inflation during the pandemic was 3.2 percent.

Unit profits of all sectors increased by 222 percent during the pandemic period. In the same period, "cumulative domestic inflation" amounted to 190 percent (See Table 2). In this period, the increase in unit profitability of 10 sectors exceeded domestic inflation. As indicated, the sector with the highest increase in unit profits between 2019-2022 was "electricity, gas, steam and air conditioning supply." This sector was followed by "manufacturing industry", "mining and quarrying" and "arts, entertainment and

recreation." In Türkiye, the sectors whose profits increased the most during the pandemic period were largely in line with other economies (Hansen et al., 2023, p.8; European Commission, 2023, p.30).

Table 2. Unit Profits in Economic Activities (2019=100) (*)

	2020	2021	2022
Total	119	158	322
A_ Agriculture, forestry and fishing	121	129	294
B_ Mining and quarrying	126	192	393
C_Manufacturing	127	202	398
D_ Electricity, gas, steam and air conditioning supply	124	152	406
E_ Water supply, sewerage, waste management and remediation act.	105	151	278
F_ Construction	117	144	288
G_ Wholesale and retail trade	119	168	362
H_ Transport, storage	115	169	368
I_ Accommodation and food service activities	70	128	322
J_ Information and communication	126	162	260
K_ Financial and insurance activities	153	142	348
L_ Real estate activities	111	111	161
M_Professional, scientific and technical activities	116	144	276
N_ Administrative and support service activities	89	123	259
O_ Public administration and defense; compulsory social security	118	140	268
P_ Education	116	128	206
Q_ Human health and social work activities	128	183	308
R_ Arts, entertainment and recreation	145	220	376
S_ Other service activities	101	140	245
For info:			
GDP Deflator (2019=100)	115	148	290

Note: Indices for "unit profits" calculated by dividing sectoral profits by real gross value added

In Türkiye, it is noteworthy that in the first years of the pandemic, the economic activities with higher unit profitability were to be found predominantly in the service sector. As a matter of fact, in 2020, when the pandemic started, "financial and insurance activities" was the sector reflecting the fastest increase in unit profits. While domestic inflation was 15 percent in 2020, the unit profit of the finance sector increased by 53 percent. This sector was followed by "arts, entertainment and recreation" and "human health and social work activities" in terms of unit profitability.

In 2021, the second year of the pandemic, the highest unit profitability increase was in the "accommodation and food services" sector due to the easing of restrictions and the low base effect. Other sectors that increased their unit profits the most in 2021 were "manufacturing industry", "mining and quarrying" and "arts, entertainment and recreation."

2022 is an extraordinary year in terms of company profitability in Türkiye, as in the rest of the world. The increase in unit profits exceeded 100 percent in 9 out of 19 sectors reported in the GDP. In 2022, the sector with the highest increase in unit profit was the "electricity, gas, steam and air conditioning" sector with 168 percent. This sector was

followed by "accommodation and food services", "financial and insurance activities" and "agriculture, forestry and fishing." In 2022, the increase in the unit profitability of the "manufacturing industry" was 97 percent, just above domestic inflation.

Considering those findings, it is observed that different sectors stand out in the increase in unit profitability in different phases of the pandemic. Another noteworthy finding is that the sectoral spread in unit profitability declined throughout the pandemic period. In other words, the number of sectors that were able to beat domestic inflation by increasing unit profitability gradually decreased throughout the pandemic. As a matter of fact, while the number of sectors whose unit profit growth lagged inflation was 5 in 2020; 8 sectors in 2021 and 9 sectors in 2022 could not make it to beat domestic inflation rate.

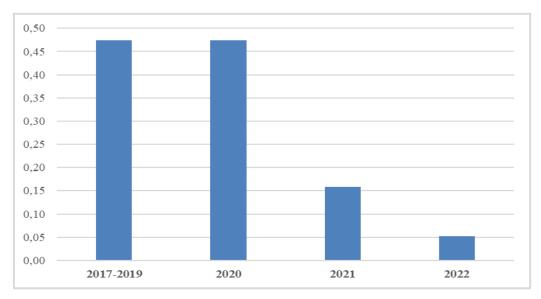


Figure 5. Unit Profit Propagation Index⁸

Another way to understand the evolution of corporate profitability is to examine the corporate profits as a share of GDP. During the pandemic period, the income share of corporates was 64 percent, exceeding past averages, while the share of income received by employees was 27 percent (See Figure 6).

In 2022, the last observation year, gross operating surplus which represents corporate profits, was 67 percent of GDP, the highest share recorded in the current series since 1998. Again, the share of the employee in GDP declined to 24 percent in 2022. This is also the lowest share recorded for the employee in the current series.

A similar picture was observed in the ISO-500 companies, which constitute as Türkiye's largest industrial enterprises. While the share of large industrial enterprises in net value added marked a record achievement in 2022, the share of the employee fell to the lowest in the series (Duvan, 2023, p.412).

⁸ Unit profit propagation index: (Number of Sectors Beating Inflation - Number of Sectors Not Beating Inflation) / Number of All Sectors

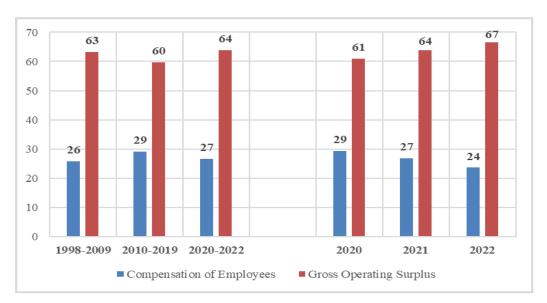


Figure 6. Compensation of Employees and Gross Operating Surplus (% of GDP)

In this framework, GDP, and ISO-500 data show that the corporate sector in Türkiye survived the pandemic more easily than the working class. Thus, the corporate sector increased its share of income during the pandemic. This is also another finding of the study that is in line revealed in the results of other countries.

As mentioned earlier, Türkiye changed its monetary policy stance in late 2021, as advanced economies were preparing for monetary tightening. As the policy rate was gradually cut, the Turkish lira began to depreciate, and inflation expectations deteriorated rapidly. As inflation dynamics had already been disrupted by the pandemic and the Russia-Ukraine crisis, interest rate cuts and the depreciation of the Turkish lira delivered a new series of demand-pull and cost-push shocks to the economy. Indeed, the inflation in 2022 was the highest inflation Türkiye has experienced so far in the new millennium.

All the while, the contribution from unit profits to inflation increased during the pandemic period, compared to the pre-pandemic period. As a matter of fact, while the contribution from unit profits to domestic inflation was 62 percent and 56 percent in the 1999-2009 and 2010-2019 periods, respectively, the effect of this component increased to 70 percent during the pandemic period.

Has the corporate sector in Türkiye sought to increase its market power by hiding behind the cloud of fog created by external and domestic shocks during the pandemic?

As mentioned earlier, the GDP decomposition method does not provide information on the causality between unit profit and inflation. Therefore, based on the findings of this study alone, an interpretation such as "related to the increase in the unit profits of firms, domestic inflation also increased during the pandemic" would not be correct. However, these preliminary findings from GDP data provide encouraging evidence to more detailed studies to understand the changes in the margins of profit for both firm and sector level.

Moreover, based on the available evidence, it seems quite possible to say the following: Even if during the pandemic the corporate sector was not the cause of the inflation, it was certainly not the losing party of the inflationary developments in Türkiye. As it is in the other countries, the corporate sector in Türkiye is the beneficiary part during the pandemic. The preliminary results indicate that the working class constitute the main party feeling the pressure of inflation genuinely in the pandemic.

During the pandemic and the wave of inflation following, the corporate sector's share of income rose to historic levels, while unit profits increased significantly. However, unit profit growth is not homogeneous across sectors. It was observed that at different stages of the pandemic, different sectors stood out in terms of unit profit growth. In this framework while in the first period of the pandemic, the service sector branches stood out

in the increase in unit profits, energy and mining sectors came to the fore in the last period of the pandemic. During the pandemic period, "manufacturing industry", "transportation-storage", "wholesale and retail trade" sectors contributed the most to domestic inflation through unit profit increases. The contribution to domestic inflation from the increase in unit profits of these three sectors exceeded 40 percent.

5. Conclusion

Kindelberger (2007, p.314) described economics as "a toolbox from which the economist must choose the appropriate model or tool for a particular problem". The Covid-19 pandemic and Russia's invasion of Ukraine have tested the global economy with new problems and soon exposed the shortcomings in economists' toolbox. With intertwined supply and demand shocks, corporate profits exploded, and inflation jumped to levels not seen for a long time.

Economists, familiar with the "wage-price" spiral from previous experience, have had difficulty identifying the inflation dynamics while employees' share of national income declines, real wages fall. Initially it did not come to the minds a "profit-price" spiral. However, the increase in the market power of corporations, which has long been observed in developed economies, together with the surge in corporate profits during the pandemic, has made this possibility visible. Soon economists, politicians, and international organizations placed the issue on their agenda.

The pandemic has been one of the most extraordinary situations, humanity has faced in recent history. As is well known, extraordinary situations call for extraordinary solutions. The pandemic, followed by Russia's invasion of Ukraine, has forced many advanced economies at the center of the global system to intervene directly in certain strategic sectors. In this period, concepts such as sellers' inflation and greedflation were at the top of the discussion agenda.

While Türkiye experienced the highest inflation in her recent past in 2022, she remained behind the ongoing global debate related with the issue. It is believed that there are country specific conditions behind the lack of interest in pursuing those discussions in Türkiye. While the monetary policy stance was changed in the last months of 2021, very high inflation rates were experienced in a short period of time in Türkiye. Inflationary expectations deteriorated rapidly, and relative prices shuffled immensely in the economy.

In the aftermath of the pandemic, when the Turkish economy experienced a succession of demand-pull and cost-push shocks from domestic and international sources, did the corporate sector absorb these shocks or did it pass them on to other economic units? How much have profits and labor costs contributed to inflation in Türkiye? How has the profitability of the corporate sector in Türkiye changed compared to the prepandemic period?

Answers to these questions have not been sought in the literature until recently. Efforts to find answers have started very recently (Yeldan et al., 2023). Preliminary findings point out to an increase in the profit margins of the corporate sector in Türkiye during the pandemic. However, these findings do not cover the extraordinary developments in 2022.

This study, on the other hand, analyzes the trends in corporate profits and inflation in Türkiye by including 2022, using a method preferred by the literature and international organizations. In this respect, to the best of our knowledge, this is the first attempt in Türkiye. The findings of the study are largely consistent with the results of other countries in the literature.

During the pandemic, the highest contribution to domestic inflation in Türkiye, as in many other economies, came from the increase in unit profits. However, unit profit growth is not homogeneously distributed across all sectors. In certain phases of the pandemic, certain sectors stood out in terms of profit growth. Again, the number of sectors that beat domestic inflation with unit profit growth has gradually decreased over time, and in this context, it has been found that the diffusion of unit profit growth has been low.

The variability in the sectors that stand out in unit profit growth during the pandemic in Türkiye has been attributed to the diversity of shocks experienced in the economy. Again, as in other economies, it was also thought as a possibility that windfall profits that emerged at different stages of the pandemic could be utilized by certain economic sectors.

The weak relative weight of the sectors with the fastest increase in unit profit growth in gross operating surplus limited the contribution of these sectors to domestic inflation. In this framework, sectors such as manufacturing industry, transportation, wholesale and retail trade, which have a significant weight in gross operating surplus, made the highest contribution to domestic inflation during the pandemic period.

According to the evidence, the corporate sector survived the pandemic more easily than the employee and increased its share in the national income. During the pandemic, the income shares of companies broke records, while the income shares of the employee fell to historic lows.

To draw conclusions and pave the way for further analysis following points might be enlisted:

The increase in the market power of companies is crucial not only for sectoral or competition policies but also for macroeconomic stability. It is now accepted by the economic literature and international organizations that in economies with high market concentration, where imperfect competition exists, investment weakens, innovation is disrupted, labor's share of income declines, and the effectiveness of monetary and fiscal policies weakens. (IMF, 2019, p.55; Akcigit et al., 2021, pp.29-31).

Therefore, it is important to have more information on this issue and to intensify the studies on this subject. The pandemic and its aftermath have shown that when it comes to corporate profits, there is not as much and high-quality data as there is on wages. This is a problem not only for Türkiye but for the whole world. Hence, it is important to accelerate domestic and international steps to address this problem.

Although the impact of the pandemic has weakened, the world is going through a conjuncture of increasing climate crises, geostrategic risks, polarization and signs of regional conflict. In the face of possible new supply shocks due to all those risks, it is of utmost importance to clarify the role of the corporate sector in inflation dynamics and to expand and diversify policy options. At this point, the task of the economist should be to learn from experience and quickly fill the gaps in the toolbox. This study on Türkiye is a step that aims to contribute to these debates. However, it pioneers the further studies to explore the matter in-depth.

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