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Analysis of Company Profitability in Cyprus: the Case of the Unit Profit Metric

Marios C. Polemidiotis*

April 2024

Abstract

The aim of this paper is twofold: (a) to present an analysis of company profitability trends in Cyprus, focusing on post-pandemic developments, both at the aggregate and at the sectoral levels; and (b) to shed some light on whether companies in Cyprus put up prices post-pandemic beyond the surge in input costs, via the construction of a corporate pricing power proxy. The paper uses data from the income side of National Accounts to construct the unit profit metric, modified by excluding mixed income and capital depreciation. The aggregate and sectoral metrics are defined as the *net* operating surplus of the economy/sector in question divided by real GDP/sectoral GVA. The estimates at the aggregate level point to a surge in unit profits following the outbreak of the pandemic, reaching historically high levels in 2022, however in a context of strong pent-up demand pressures following the lifting of the COVID lockdowns. At the sectoral level, the rise in unit profits post pandemic was mainly driven by trade, tourism and leisure-related activities, coinciding with strong economic reopening effects. The corporate pricing power proxy was at an all-time high in 2022, coinciding with strong domestic demand, suggesting that companies raised prices beyond the strong corporate cost dynamics. Going forward, past high company profitability appears to allow firms to absorb any further cost pressures, including from the wage side, given the observed, albeit relatively contained thus far, drop in total economy unit profits, also coinciding with an ongoing unwinding of strong demand pressures. At the same time, the sectoral estimates of unit profits exhibit significant variation, with continued, albeit much more moderate, growth in services. Thus, possibly higher and/or more persistent than foreseen company profits in some sectors could pose an upside risk to the baseline inflation outlook.

Keywords: profits, wages, corporate pricing power, economic reopening effects, pent-up demand.

JEL Classification: L11, L16, L21, L25, D49.

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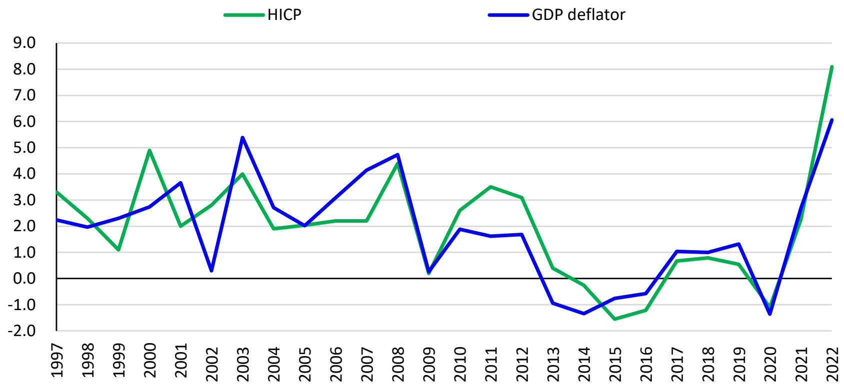
1. Introduction

Company profits are an important part of final output prices in an economy, as is the case of corporate costs, with wages being a significant component. Firms formulate their pricing strategy so as to maximise profits and, in this context, set prices at a certain level in excess of production costs in order to achieve remuneration on their capital. Inflationary pressures related to domestic factors can be estimated by using National Accounts data. An important indicator, which allows the assessment of these pressures, is the GDP deflator. The GDP deflator allows a decomposition of the "price" of total value added per unit of output into unit labour costs, unit profits and unit taxes (accruing to government). Developments in profits and wages, as captured by the GDP deflator are important determinants of inflation. **Chart 1** confirms the tight relationship between the GDP deflator and the Harmonised Index of Consumer Prices (HICP)[1].

CHART 1: GDP deflator and HICP
(annual change, %)



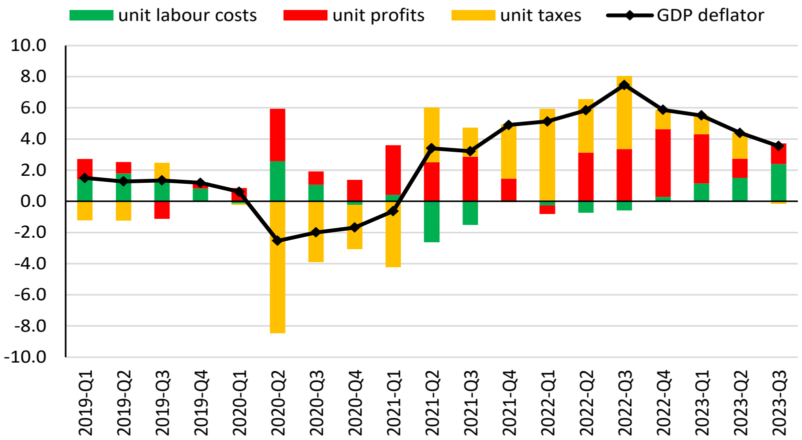
Source: Eurostat.

There is a rich debate as to the extent to which high profits are to blame for high inflation in 2022, both at Cyprus and the euro area levels (e.g. Arce, 2023), as well as about prospects going forward. In fact, some European governments (e.g. Agyemang, 2023) have taken policy action in the face of high company profitability, e.g. windfall taxes on sectors such as banks (e.g. in Italy and Spain) and food distributors (e.g. in Portugal). It should be noted that the high inflation, both in Cyprus and the euro area, has been the result of external factors, in particular the surge in oil prices, with a rich literature on the pass-through of oil shocks to inflation pointing to the importance the state of the business cycle and the level of oil prices (e.g. Baba and Lee, 2022). Recent analysis by the CBC (2023) has quantitatively estimated the impact of higher profit margins (a different concept than unit profits) to inflation, specifically for HICP services at 0,35 p.p. in 2021 and 1.3 p.p. in 2022 and for overall HICP at 0,15 p.p. in 2021 and 0,5 p.p. in 2022.

[1] There are conceptual differences between the HICP and the GDP deflator. First, the HICP captures price pressures emanating from a consumption-related basket of goods and services only whereas the GDP deflator includes price pressures from other GDP sub-categories (e.g. investment-related goods). Second, the HICP captures price developments relating to consumption-related goods and services have been produced both domestically and have been imported, whereas the GDP deflator captures domestic price pressures only (i.e. import prices have been deducted).

To analyse company profitability trends and contribute to the debate as to whether high inflation in Cyprus in 2022 was partly "profit-driven", this paper resorts to data from the income side of National Accounts and delves deeper into the analysis of the drivers of the GDP deflator (**Chart 2**). Both sides of the GDP identity from the income side can be divided by real GDP to arrive at components in unit terms. The result is the GDP deflator on the left hand side of the identity, with its change able to be analysed via the changes of the components. These components are as follows: (a) worker wages (labelled "unit labour costs" in **Chart 2**); (b) company profits (in **Chart 2** labelled "unit profits" comprising of the "gross operating surplus and mixed income" category, which includes capital depreciation and remuneration of self-employed; as well as (c) the part that accrues to the government (net indirect taxes, i.e. indirect taxes less subsidies, labelled "unit taxes" in **Chart 2**).

CHART 2: Weighted contributions to y-o-y growth of GDP deflator by component, Cyprus
(p.p. contributions)



Source: Eurostat, author's own calculations.
Note: profit is defined as the gross operating surplus and mixed income.

Chart 2 points to a rising contribution of profits to the GDP deflator since the second half of 2022, with a gradually normalising contribution over 2023. The advantage of this decomposition in unit terms is that it allows an analysis of the strength of the pass-through to inflation for two reasons. First, from the standpoint of inflation, it is *unit* profit that matters, not *total* profit (profit driven by volume of sales as well as unit prices). Second, unit profits also need to be assessed relative to unit costs and unit selling prices. For example, whilst rising unit profits could reflect hiking prices, they could also reflect falling unit costs without any change on unit selling prices. Conversely, unchanged unit profits in the case of rising unit costs could be an indicator of high corporate pricing power, e.g. if corporate costs are rising and profits are stable, then unit selling prices are being hiked to preserve unit profits.

The aim of this paper is twofold. Firstly, it aims to present an analysis of trends in company profitability in Cyprus by constructing unit profits, both at the aggregate and sectoral levels, focusing in particular on post-pandemic. At the aggregate level, the estimates point to a surge in unit profits following the outbreak of the pandemic, reaching historically high levels in 2022. At the sectoral level, the rise in unit profits following the lifting of the lockdowns was concentrated mainly in trade, tourism and leisure-related activities. The second aim of the paper is to comment on the cost conditions underpinning the rise in unit profits in the recent period. That is, it tries to comment on the extent to which firms were able to hike prices beyond the rise in input costs, in a context of strong demand-supply imbalances following the lifting of the pandemic lockdowns. To this end, the paper constructs an estimate of the unit profit path based on the pre-pandemic relationship of unit profits and unit corporate costs, subsequently used to obtain a rough proxy of corporate pricing power. The latter is calculated as the difference between the actual and the estimated unit profit paths. Whilst a precise quantitative assessment of the magnitude of corporate pricing power or the importance of demand- vs. cost-push inflation pressures is outside the scope of this paper, the results suggest that corporate pricing power was at an all-time high in 2022, coinciding with strong demand following the lifting of the lockdowns. This seems to suggest that the strong demand environment coinciding with the reopening of the economy endowed companies with the power to put up prices higher than corporate costs, leading to high levels of company profitability over 2021-22.

The remainder of this paper is structured as follows. **Section 2** provides a short overview of the unit profit metric and the trends at the aggregate level and motivates the analysis with an exposition of unit profits vs. unit labour cost developments in Cyprus compared with other euro area economies. **Section 3** discusses developments in unit profits in Cyprus at the sectoral level and highlights noteworthy trends. **Section 4** derives the proxy for corporate pricing power, with the metric proving to be at an all-time high in 2022, coinciding with strong domestic demand pressures. **Section 5** summarises and concludes.

2. Construction of the unit profit metric

The starting point for the calculation of unit profits is data on National Accounts from the income side. The income breakdown of GDP available from Eurostat comprises indirect taxes less subsidies on production accruing to the government (termed "net indirect taxes"), compensation of employees and an aggregated component termed "gross operating surplus and mixed income". Some refer to this aggregated component as a proxy for the profit portion of GDP. Nevertheless, this is not a good proxy of company profitability for two reasons according to Haskel (2023). First, it includes mixed income, which represents the remuneration of self-employed after they have incurred their various costs, as well as income from housing services (i.e. actual rents) and imputed rents from property (owner occupied housing). Note that the rise in value of housing, not only in Cyprus but in many advanced economies over the past few years, represents a flow of income to property owners and has nothing to do with company profitability or the pricing power of businesses. In addition, a self-employed person's income includes a return for the labour they have contributed as well as a return to them as the owner of the enterprise, thus it includes elements of both labour and profits. In general, income from housing and from self-employment is not typically regarded as forming part of business profits, thus needs to be excluded from the company profitability metric. The second adjustment that needs to be made to the aforementioned aggregated component is to deduct capital depreciation costs (termed “consumption of fixed capital” in the National Accounts breakdown). This is a cost faced by companies, as it is needed to replace depreciated capital (stripped out of operating profits in profit & loss accounting). Moreover, it would be important to exclude capital depreciation and hence resort to a *net* corporate profitability metric as the pandemic and the associated lockdowns of 2020 and 2021 could have led to a rise in capital depreciation costs of firms. What is more, consumption of fixed capital includes interest costs incurred in acquiring fixed assets, which may consist either of actual interest paid on borrowed funds, or the loss of interest incurred as a result of investing own funds in the purchase of the fixed asset, instead of a financial asset (opportunity cost). Consequently, an improved proxy for corporate profits is the *net* operating surplus calculated as the *gross* operating surplus *minus* capital depreciation. Note that some studies and metrics (including by the ECB) leave in the capital depreciation part and thus analyse unit profits in *gross* terms. The novelty of this study is that it analyses company profitability in *net* terms, and this could be important to do so given the recent sharp rise in borrowing costs.

The drawbacks of the unit profit metric are associated with the use of National Accounts data. Specifically, the National Accounts data are only available on a quarterly basis and with a delay, compared with the monthly inflation data. Furthermore, National Accounts data can be subject to revisions, adding uncertainty to their real-time assessment. In addition, results at the total economy level or even at the sectoral level are likely to mask heterogeneous developments at the firm-level.

A common way of correcting for the labour income that is included in mixed income involves assuming that the self-employed earn the same average wage as employees and subtracting this estimate of imputed labour income from the “gross operating surplus and mixed income” component. Regarding consumption of fixed capital, the sectoral data is only available on an annual basis, hence a linear interpolation can be implemented to construct the quarterly data.

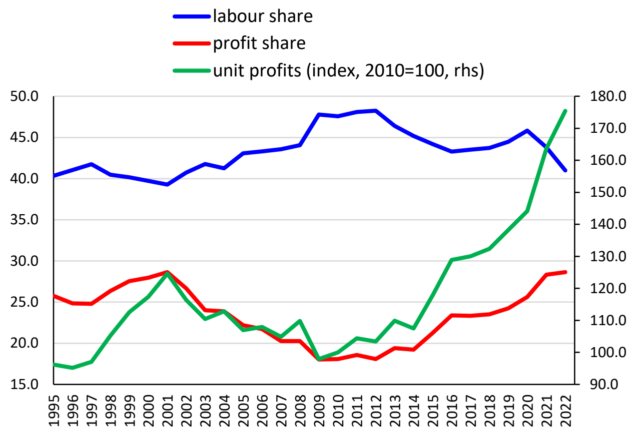
Unit profits at the aggregate level are defined as the *net* operating surplus of companies in the economy (i.e. exclude consumption of fixed capital from gross metric) and are divided by real GDP, so as to analyse developments per unit of output. This per unit metric captures what share of output accrues to businesses and provides a more precise basis for the discussion of the contribution of business pricing decisions to inflation than considering developments in company profitability in *absolute terms*. The sectoral metric is constructed using sectoral estimates of the net operating surplus of each sector in question divided by the sector’s GVA. The aggregate and sectoral metrics are analogous to the net profit margin at the company level, which captures the amount of net profit a business has accrued relative to its total sales revenues over a given period. In other words, they capture the level of profit from a single unit of a product or service.

It should be noted that there is a wealth of profit metrics, both at the economy and company level (for a more detailed discussion see Hahn, 2023). At the economy level, the traditional metric used by forecasters for inflation analysis is the so-called "profit margin" indicator, which is calculated as the ratio of the GDP deflator at basic prices to unit labour costs. In other words, after stripping out the impact of changes in government policies (indirect taxes (e.g. VAT) and subsidies) on domestic prices (the GDP deflator), the effect of labour cost growth is then removed to arrive at the profit margin indicator. As such, the profit margin indicator assesses the extent to which profit developments have added to or mitigated unit labour cost developments in explaining domestic price pressures.

The unit profit and the profit margin concepts are related but there are some subtle differences. Changes in the unit profit metric capture the specific contribution of profits to the growth of the GDP deflator, while the profit margin indicator capture the degree to which profits grow more (or less) strongly than labour costs. The unit profit metric is used by the ECB for euro area inflation analysis (e.g. Hahn, 2023) and has been further modified in this paper to exclude the effect of capital depreciation when constructing the Cypriot series. Overall, the unit profit definition should be considered preferable to the traditional profit margin metric given that the former strips out the effect of mixed income and capital depreciation to derive a relatively more representative measure of profits (in net terms). Additionally, it should be noted that Cystat's detailed breakdown of Cypriot National Accounts data from the income side is only available at yearly frequency. As noted previously, quarterly data available from Eurostat groups categories together, i.e. "gross operating surplus and mixed income", that includes capital depreciation and remuneration of self-employed.

Chart 3 shows the labour (compensation of employees) and profit (net operating surplus) share of income over time, pointing to a declining path for the former and a rising one for the latter since the outbreak of the pandemic. The rising profit share also coincides with an extraordinary rise in the unit profit metric, with the relevant index accelerating sharply following the outbreak of the pandemic, reaching historically high levels in 2022, however in a context of strong economic reopening effects following the lifting of the pandemic lockdowns and important pent-up demand pressures.

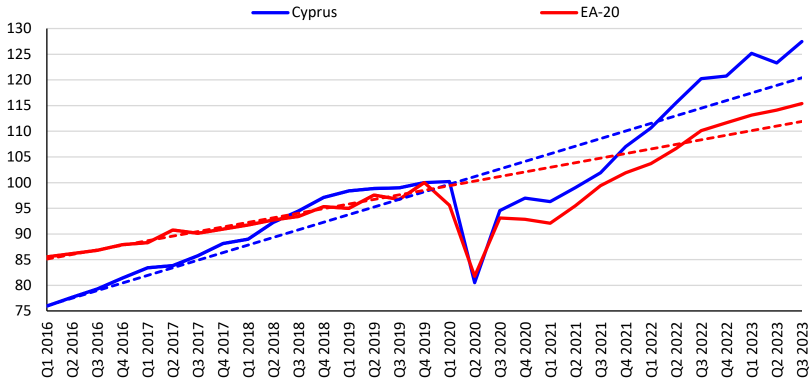
CHART 3: Wage and profit share and unit profits
(share of nominal GDP, %; index)



Source: Eurostat, author's own calculations.

Using the proposed profit metric, the paper constructs a rough proxy of corporate pricing power by comparing the actual unit profit growth path with an estimated path based on a simple linear relationship of unit profits and unit corporate costs pre-pandemic. To this end, the paper contributes in a *qualitative* manner to the debate as to whether companies put up prices beyond the rise in input costs in the recent past, resulting in high profits contributing to high inflation in Cyprus, however in a context of significant pent-up demand pressures following the COVID pandemic and the lockdowns. Without being a precise quantification of the magnitude of corporate pricing power or being in a position to be linked to the strength of underlying inflation drivers (demand- vs. cost-push factors), the time series of this proxy shows that it was at an all-time high in 2022 and coincided with strong domestic demand dynamics. In other words, the estimates seem to suggest that an excess of demand relative to supply, linked to strong economic reopening effects following the lockdowns, enabled firms to raise prices to a relatively greater extent than corporate costs in the recent past and thus enjoyed high profitability. Albeit difficult to gauge the extent of excess demand over supply (i.e. the degree of mismatch), it is interesting to look at recent developments in *nominal* demand (private consumption and investment adjusted for the impact of SPEs) vs. the pre-COVID trend (**Chart 4**) to shed some light, at least on the demand side. The most recent data suggest that the gap between actual domestic demand and the pre-COVID trend is higher in Cyprus than in the euro area. What is more, the data point to the Cyprus economy recovering losses in domestic demand due to COVID earlier than the euro area. Overall, it appears that households and firms have the available resources (including from accumulated savings during the pandemic years) to spend on goods and services, with domestic demand being above the pre-pandemic trend, thus supporting corporate pricing power and feeding into higher final consumer prices.

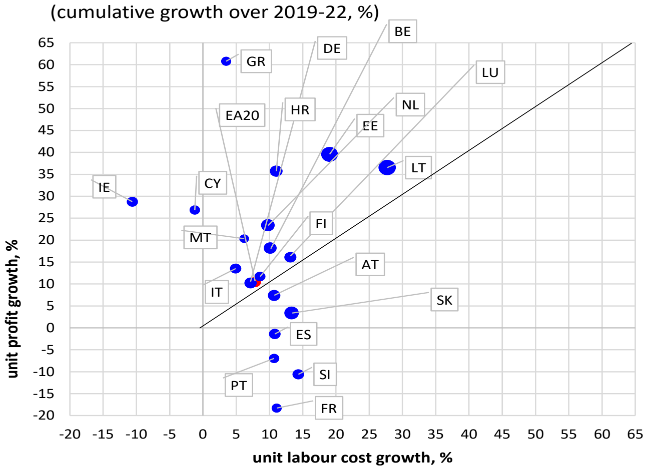
CHART 4: Estimate of nominal domestic demand
(2019Q4=100)



Source: Eurostat, author calculations.
Notes:
1) Domestic demand includes seasonally adjusted private consumption and investment. CY investment excludes the impact of SPEs (mainly ships).
2) Dotted line refers to pre-COVID trend.

It is interesting to note that corporate profitability has been supported by a relatively low wage environment, at least so far. This applies *both* in the case of Cyprus and the euro area as shown in **Chart 5**. From a simple accounting perspective, it appears that unit profit growth has contributed more to inflation than unit labour cost growth over 2019-22 as a number of euro area economies are above the 45 degree line.

CHART 5: Unit profit growth, ULC growth and HICP inflation
(cumulative growth over 2019-22, %)



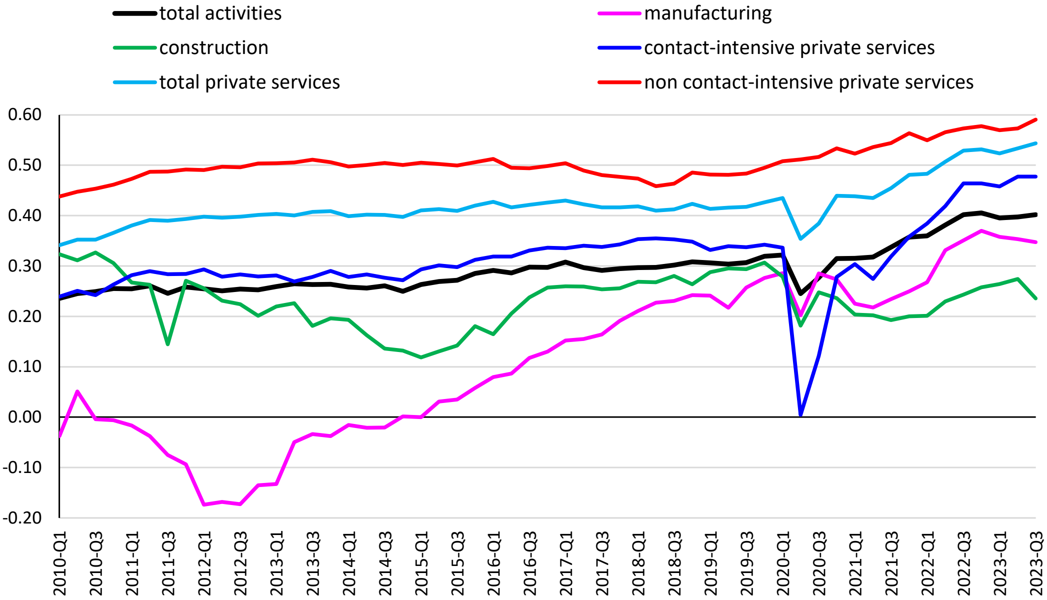
Notes:
1) Size of bubble denotes cumulative growth of HICP inflation over 2019-22
2) LV excl. as it is an outlier in terms of unit profit growth

3. Sectoral unit profit metrics

Further to the estimation of annual unit profits, this paper proceeds with the construction of quarterly estimates at the sectoral level[2]. The main message is that the rise in unit profits was, generally, an across-the-board phenomenon (**Chart 6**) following the outbreak of the pandemic.

[2] The negative unit profits in manufacturing over 2011-13 appear to be driven by the relatively high level of capital depreciation costs of this industry, which is to be expected.

CHART 6: Unit profits across economic sectors, Cyprus
(net operating surplus over real GVA; levels)



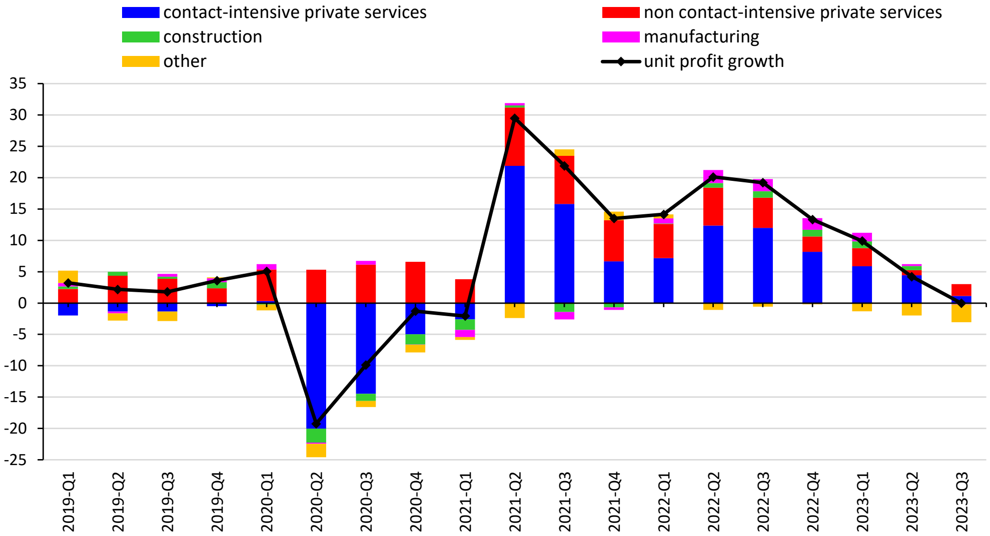
Source: Eurostat, author's own calculations.

In terms of contributions to overall unit profit growth, the sharp rebound since 2021Q2 was largely driven by services, in particular contact-intensive ones (i.e. trade, tourism and leisure-related activities). At the same time, this pick-up in unit profit growth partly represented some catching up of the previous losses over 2020Q2-2021Q1 due to the pandemic and the lockdowns. Furthermore, it is interesting to note that non-contact intensive services continued to contribute positively to the overall unit profit growth even during the pandemic years. Overall, the main message is that demand-supply mismatches in many sectors following the outbreak of the pandemic, in particular contact-intensive services[3], appear to have enabled many companies to raise prices without losing market share and to enjoy high profitability in a context of strong economic reopening effects and pent-up demand following the lockdowns.

[3] In the analysis of this section, the contact-intensive services category includes trade, transportation, hotels and restaurants as well as arts, entertainment and recreation. The non-contact intensive category includes the sectors of information and communication, financial and insurance activities, real estate activities and professional services, hence excludes public services (i.e. excludes the sectors of public administration and defence, education and health).

Chart 7: Weighted contributions to unit profit growth

(y-o-y change; p.p. contributions)



Source: Eurostat, author's calculations.

Note: the category "other" includes agriculture and public services.

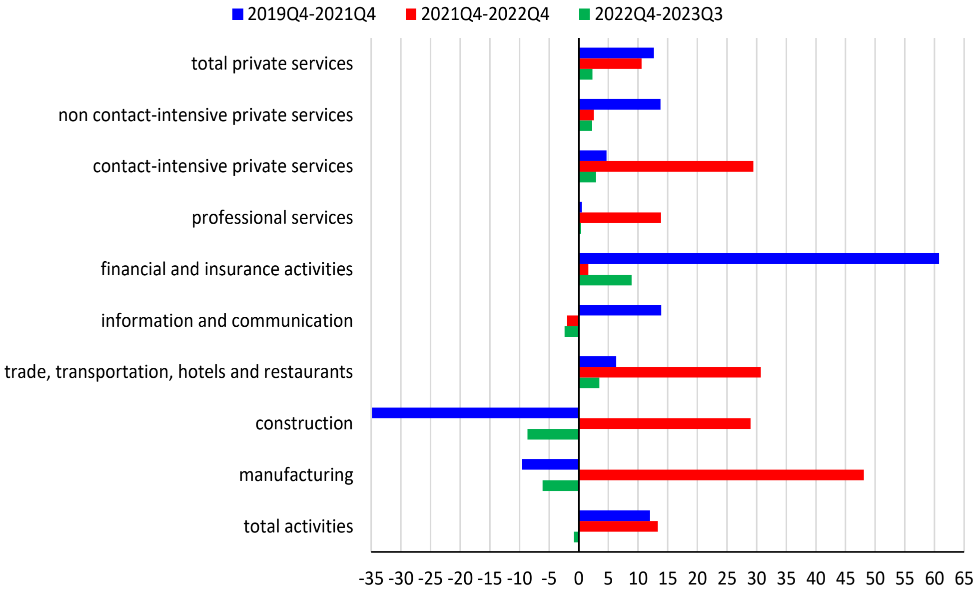
A number of interesting findings from the sectoral analysis emerge (**Charts 6, 7 and 8**):

- Unit profits have consistently been higher for the **non-contact intensive services** group relative to all other economic sectors over time, with growth remaining in positive territory even during the pandemic period (**Charts 6 and 7**).
- Unit profits for **total activities** exhibited a small correction over 2023Q1-Q3 (green bar in **Chart 8** capturing the change vs. 2022Q4), following expansion over 2020-21 (blue bar capturing the cumulative change over 2021Q4 vs. 2019Q4) and 2022 (red bar capturing the cumulative change over 2022Q4 vs. 2021Q4). This seems to suggest that the ongoing softening of demand pressures over 2023 implied that company pricing decisions contributed towards the gradual normalisation of inflationary pressures. At the same time, a differential picture emerges across tertiary and secondary sector activities, with unit profits in **services** (**both in contact and non-contact intensive ones**) continuing to exhibit growth, albeit noting a notable deceleration, with the correction in the overall economy metric driven by the drops in **construction and manufacturing**.
- The sharp cumulative rise in unit profits of **contact-intensive services** over 2022 is driven by developments in the **trade, transportation, hotels and restaurants sector**. In turn, this reflects strong pent-up demand for travel and despite uncertainty about the prospects of the sector given loss of the Russian market given the invasion of Ukraine in February 2022. The moderation in unit profits over 2023Q1-Q3 could reflect rising competition among hoteliers given new units opening recently and accommodation services provided via Airbnb as per concerns (Cyprus Business News, 2023) raised by the Association of Cyprus Tourism Enterprises (ACTE), as well as an apparent reported rise (Anatolia Agency, 2023) in the number of tourists spending their holidays in the occupied areas.

Going forward, the expected loss of Israeli tourists owing to the ongoing Middle East conflict, could further dampen unit profit growth in this sector.

- The **construction** sector seems to have been able to pass on the higher input costs to residential property prices in 2022. The rise in the sector's profitability over 2022 could be linked to material demand side pressures both from the local and foreign markets (linked to buy-to-let motives and inflow of foreign labour in the context of the headquartering policy, respectively) enabling construction companies to put up prices beyond the strong input price dynamics. Unit profit growth in the construction sector is in negative territory over 2023Q1-Q3, which could be attributed to still elevated construction costs in Cyprus as they lag international trends in the prices of basic construction materials. At the same time, and on the demand front, there has been a notable shift in preferences towards flats and smaller houses as well as evidence of cooling demand pressures from the foreigners' side, which could contain the overall revenues of construction companies.
- The **financial and insurance activities** sector continues to record positive unit profit growth over 2023Q1-Q3, owing to the differential between lending and deposit rates. Going forward, the recent rise in deposit rates offered by some of the smaller banks since mid-September 2023, could be expected to manifest in further moderation in the unit profit growth of the sector in question. The high profitability over 2020-21 could be attributed to fees and commissions charged, i.e. prior to the rise in interest rates. The strong moderation in unit profits over 2022 could be linked to the provision of compensation granted to a number of former bank employees given voluntary retirement schemes offered by Cyprus' commercial banks (e.g. Bank of Cyprus, Hellenic Bank) that have "eaten away" on the banks' profits.
- The small correction in unit profit growth in the **information and communication** sector over 2022 and 2023Q1-Q3 could reflect the ongoing inflow of skilled foreign labour (in the context of the headquartering policy) that receive high wages and possibly the associated increased competition for scarce ICT talent, thus constraining profits.

CHART 8: Sectoral unit profits, Cyprus
(% change over indicated period)



Source: Eurostat, author's own calculations.

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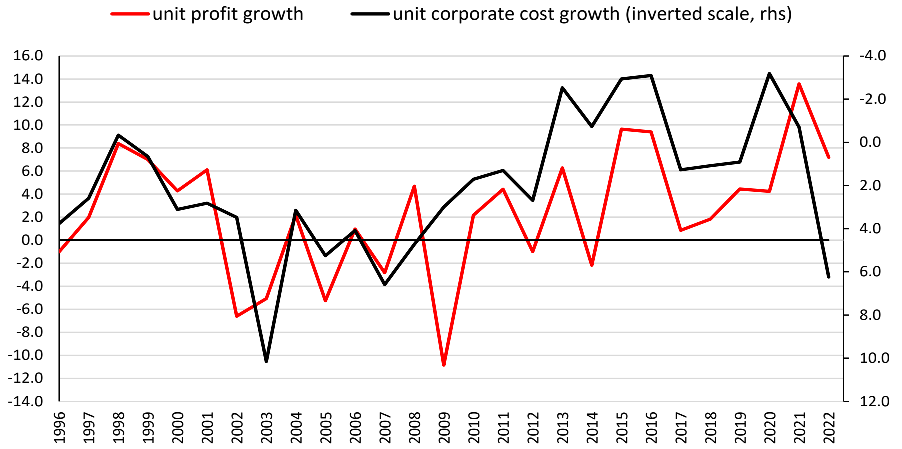
4. Proxy of corporate pricing power and influence on domestic price pressures

Following the estimation of unit profits, this section aims to contribute to the debate about the *conditions* under which company profitability has increased following the outbreak of the pandemic. Specifically, it calculates a *proxy* of corporate pricing power by analysing the relationship between unit profits and unit corporate costs at the aggregate level and tries to shed some light as to whether companies have been able to put up prices beyond the rise in costs.

Using the National Accounts data from the income side, corporate costs are defined as the sum of labour costs (compensation of employees), net indirect taxes (i.e. indirect taxes less subsidies) and capital depreciation (consumption of fixed capital). Both corporate costs and profits are defined in unit terms as opposed to absolute terms, i.e. by dividing with real GDP. **Chart 9** below demonstrates the generally inverse relationship between unit corporate costs (note the inverted scale on the right hand side axis in **Charts 9** and **12**) and unit profits. The outliers shown in **Chart 9** (i.e. 2009, 2014 and the recent 2021-22 period) allude to the important role of demand-supply imbalances in terms of influencing corporate pricing power. For example, whilst corporate costs moderated/declined further in 2009/2014, unit profits fell owing to the sharp contraction in demand following the aftermath of the global and the domestic banking crisis. In 2022, and despite the strong growth in unit corporate cost growth following two years of consecutive drops (reaching about 6% in 2022 following a cumulative drop by about 4% over 2020-21), unit profits still exhibited a notable growth rate (about 7% in 2022). Based on the corporate pricing power proxy, this could be attributed to demand-supply mismatches post pandemic, linked to strong economic reopening effects enabling companies to pass on higher input costs to consumers.

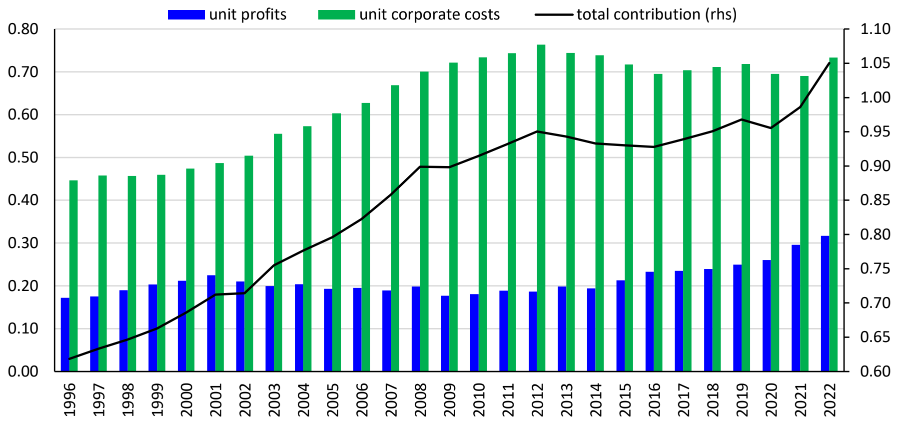
CHART 9: Unit corporate costs and unit profits, Cyprus
(annual change, %)



Source: Eurostat, author's own calculations.

Chart 10 below confirms that the contribution of both unit profits and unit corporate costs to the GDP deflator was quite notable in 2022.

Chart 10: Contribution of unit corporate costs and unit profits to GDP deflator
(level)



Source: Eurostat, author's own calculations.

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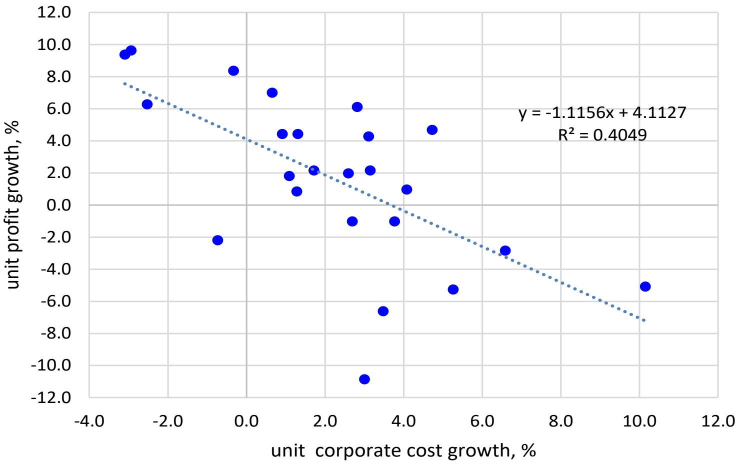
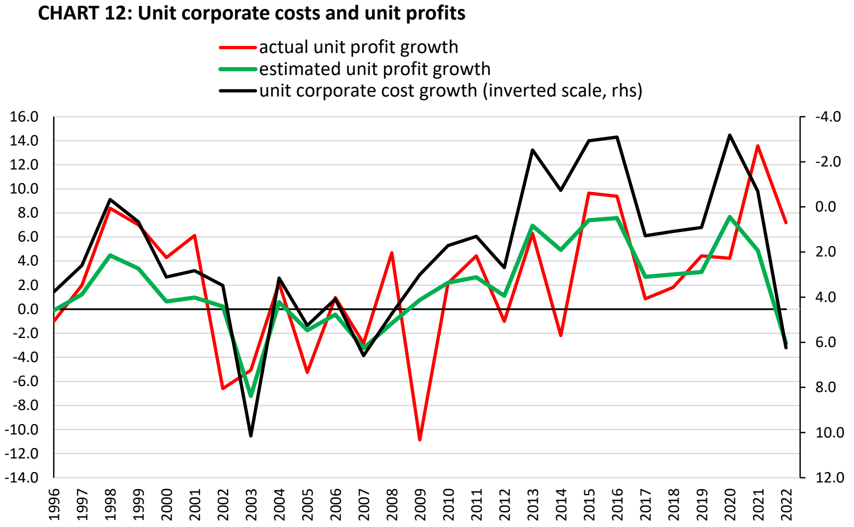
This paper now proceeds to construct an estimate of the unit profit path, taking as given the historical pre-COVID relationship between unit corporate costs and unit profits to obtain a proxy of corporate pricing power in Cyprus over time. This proxy is calculated as the difference between the actual and estimated unit profit paths. **Chart 11** below shows the simple linear relationship (inverse one) of the two variables for the pre-pandemic period.

CHART 11: Pre-COVID (1996-2019) correlation between unit corporate cost and profit growth, Cyprus



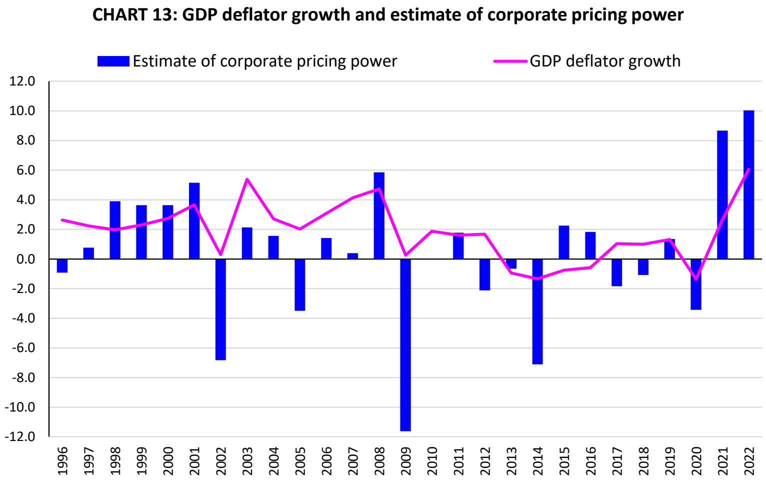
Source: Eurostat, author's own calculations.

This above simple linear relationship is used to calculate an estimate of the path of unit profits (green line in **Chart 12** below) using the corporate cost path observed. In **Chart 12**, the difference between the actual unit profit growth path (red line) and the estimate unit profit growth path (green line) provides the estimate of corporate pricing power (blue bars in **Chart 13** below). A *precise* quantification of corporate pricing power and of its contribution to inflation (GDP deflator) is beyond the scope of this paper as any estimate is influenced by the econometric choices made (variables used, nature of relationship between variables modelled (could be non-linear), etc.). In addition, the availability and quality/stability of data hinders an econometric estimation of corporate pricing power. For example, a useful metric of demand-supply imbalances would be the output gap, however, this is not observable and estimates are affected by revisions in historical National Accounts data. Another issue is the limited data on market shares across sectors and over time that would be needed to estimate market concentration variables in Cyprus (e.g. Herfindahl-Hirschman Index) and to be included in an econometric regression as proxies for competitive pressures in the national economy. Furthermore, the relationship between competition and inflation is not as straightforward for a number of reasons (see European Commission, 2023). First, a rise in input costs could result in higher inflation in more competitive market environments, as firms cannot absorb input cost inflation through lower profits. Second, consumers may be less likely to punish a firm by switching to a competitor if prices increase as, in a competitive market environment, they may have more understanding for a firm raising its prices. Overall, the time series of the corporate pricing power proxy is still informative in terms of providing an *indication* of the magnitude of corporate pricing power over time. Note that the high level of unit profits in 2022 could not be attributed to strong fiscal support as, following the high level of subsidies over 2020-21 due to the pandemic, the situation normalised in 2022. Also, selling price expectations among businesses as reported by the European Commission in its monthly sectors were generally on a downward trend over the second half of 2022, thus expectations of further strong input prices to motivate firms to bring selling price rises forward does not seem to be a valid explanation.



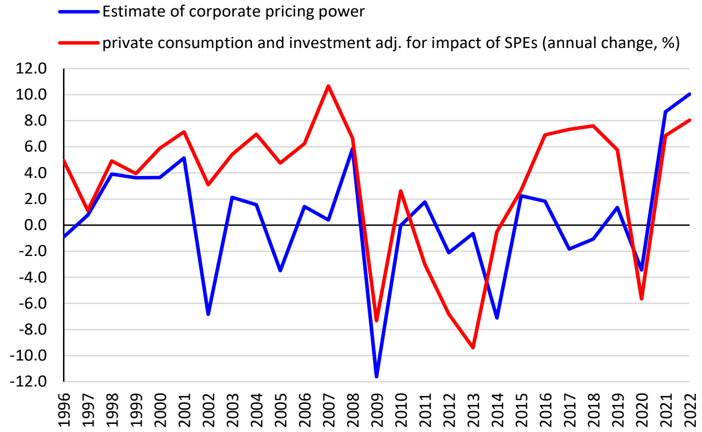
Source: Eurostat, author's own calculations.

The abovementioned approach indicates that this estimate of corporate pricing power was at an all-time high in 2022 when considering the constructed data from the beginning of the relevant times series. In addition, the 2022 estimate actually follows strong corporate pricing power in 2021. This suggests that strong corporate pricing power in the years following the pandemic enabled firms in Cyprus to hike prices and defend their profits by putting up prices beyond the surge in input costs. This was made possible by strong domestic demand, as shown in **Chart 14**. The strong pass-through from businesses' pricing strategy, in a context of strong demand pressures following the lifting of the pandemic lockdowns, is reflected in historically high growth of the GDP deflator which, as shown in **Chart 1** of this paper, exhibits a strong co-movement with HICP inflation.



Source: Eurostat, author's own calculations.

CHART 14: Proxy for domestic demand and estimate of corporate pricing power



Source: Eurostat, author's own calculations.

5. Summary and conclusions

This paper uses data from the income side of National Accounts to construct unit profits, both at the aggregate and sectoral levels, and to analyse company profitability trends in Cyprus, with a particular focus on the post-pandemic period. The estimates at the aggregate level point to a surge in unit profits following the pandemic, reaching historically high levels in 2022, coinciding however with strong demand side pressures following the lifting of the pandemic lockdowns and important economic reopening effects. The estimates covering 2023Q1-Q3, according to the cut-off date for the data used in this analysis, point to a small drop in total economy unit profits. This, in conjunction with the ongoing disinflationary process seems to suggest that past high company profitability is allowing firms to absorb any further cost pressures, including from the wage side. At the sectoral level, growth in unit profits following the lifting of the lockdowns was mainly driven by trade, tourism and leisure-related activities, which coincided with strong economic reopening effects. At the same time, noteworthy heterogeneity in unit profit developments across sectors was registered since the outbreak of the pandemic. In more detail, the sectors of **trade, transportation, hotels and restaurants** exhibited a significant rise in unit profits over 2022 linked to strong pent-up demand for travel and despite the loss of the Russian market following the invasion of Ukraine. A moderation in unit profits is observed over 2023Q1-Q3, possibly linked to rising competition among hoteliers given new units opening recently and accommodation services provided via Airbnb, as per concerns raised by the Association of Cyprus Tourism Enterprises (ACTE), as well as an apparent reported rise in the number of tourists spending their holidays in occupied areas. In **construction**, the sharp rise in unit profits over 2022 seems to reflect the strong pass-through of substantial rises in input costs, aided by substantial demand-side pressures from both the local and foreign markets. At the same time, the evidence of cooling demand pressures from the foreign market side could lead to further correction in the relevant metrics. The **financial and insurance activities** sector continued to record positive unit profit growth over 2023Q1-Q3, owing to the differential between lending and deposit rates. With the recent rise in deposit rates offered by some of the smaller banks as of mid-September 2023, further moderation in unit profit for the sector in question could be expected going forward. The relatively small decline in unit profits in the **information and communication** sector over 2022 and over 2023Q1-Q3 could reflect the ongoing inflow of skilled foreign labour, which earns high wages, and possibly the associated increased competition for scarce ICT talent pushing up wages and constraining company profits.

To contribute to the debate as to whether high corporate profitability has contributed to inflation in recent years, the paper estimates unit profits by accounting for the increased unit corporate costs. The evidence presented in this paper supports the view that inflation over 2021-22 has been partly driven by the strong pass-through of input costs to consumer prices that went beyond the cost increases, however in an environment of strong economic reopening effects after the lifting of the lockdowns in 2021. To do so, the paper constructs a unit profit path using the pre-pandemic relationship of unit profits and unit corporate costs to obtain an estimate of corporate pricing power. The latter is calculated as the difference between the actual and the estimated unit profit growth paths. Whilst a precise quantitative assessment of the degree of corporate pricing power or the magnitude of demand- vs. cost-push inflation pressures is outside the scope of this paper, the results suggest that corporate pricing power was at an all-time high following the outbreak of the pandemic and especially in 2022, coinciding with strong domestic demand following the adverse economic impact linked to the COVID pandemic and the associated lockdowns.

Going forward, the ongoing unwinding of strong demand pressures - attributed, inter alia, to the strong economic developments of the previous years (base effect), the weakness in the external environment owing to the ongoing wars and the gradual fading of the dampening effects of the past monetary policy tightening - are foreseen to motivate firms to continue to absorb any further cost pressures, including from the wage front, using past profits. At the same time, and given significant heterogeneity observed across sectors (unit profit growth in services still positive over 2023Q1-Q3), higher and/or more persistent than foreseen company profits in some sectors could pose an upside risk to the baseline inflation outlook.

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