

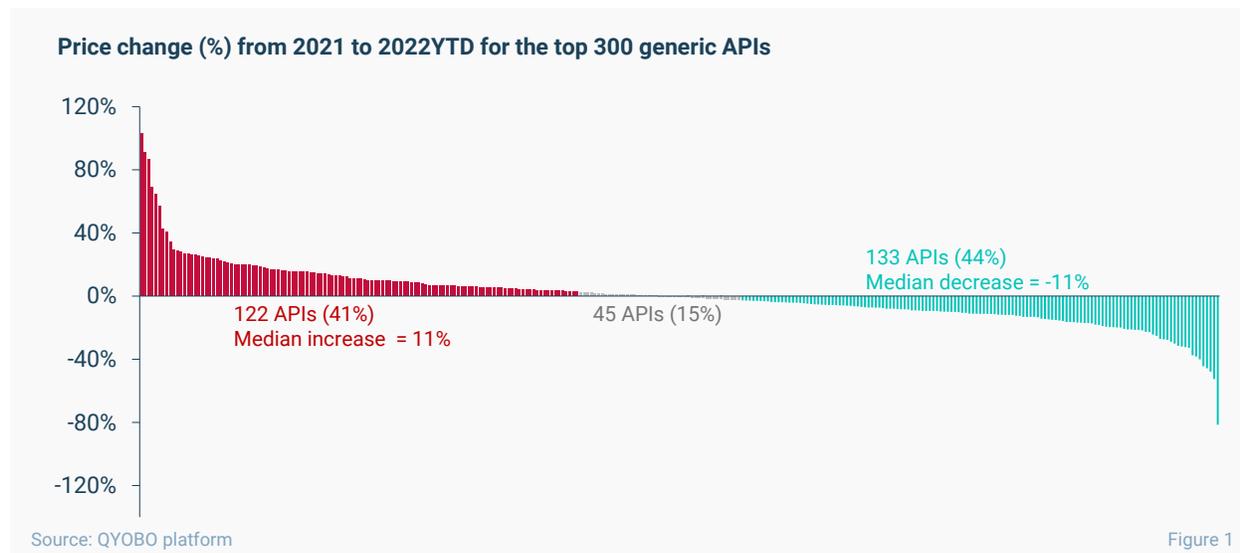
API prices in 2022 - A data-driven perspective gives reason for optimism

25 October 2022, Munich - With inflation all over the news, it is only natural that most companies expect their input prices to increase. An article published by [The Economist](#) a few months ago shows that this will likely be an enduring phenomenon.

In our last article published on September 8th, we hinted that a more optimistic outlook may be merited for the API market. Based on the QYOBO platform, we systematically analyzed the 300 most popular APIs of our clients using the QYOBO API 300 index. Earlier this year, when we first ran the analysis based on market data for January-April 2022, the API 300 index indicated that prices had already increased by 5.2% in 2022 against the previous year. The overall increase was thus slightly lower than consumer price inflation which was generally seen at around 7.0% globally at the time.

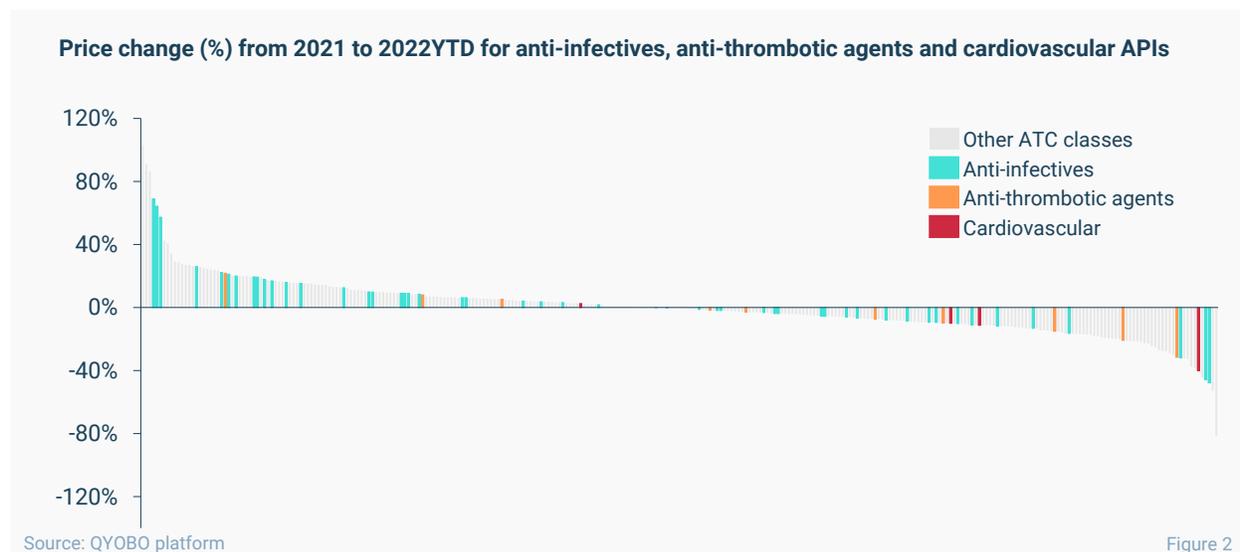
Ever since, we've updated the index on a monthly basis using the latest market prices from the QYOBO platform. Based on July data, the index showed a slight relaxation down to 5.1% (vs. the previously recorded 5.2% in April). August data – indicating another slight decrease to 5.0% – further supports this trend.

The reason why the current market situation may nonetheless be perceived as a “suppliers market” may be founded in the fact, that many of the broadly known APIs such as amoxicillin, ceftriaxone, metformin or paracetamol (see [previous article](#)) have become substantially more expensive. The circumstance that most substances (44%) continued to decrease in price (figure 1), is however a much less known fact as most companies still lack a systematic approach to monitor market prices. The key takeaway here is that pharmaceutical companies are still able to realize substantial savings despite the overall inflationary pressure.

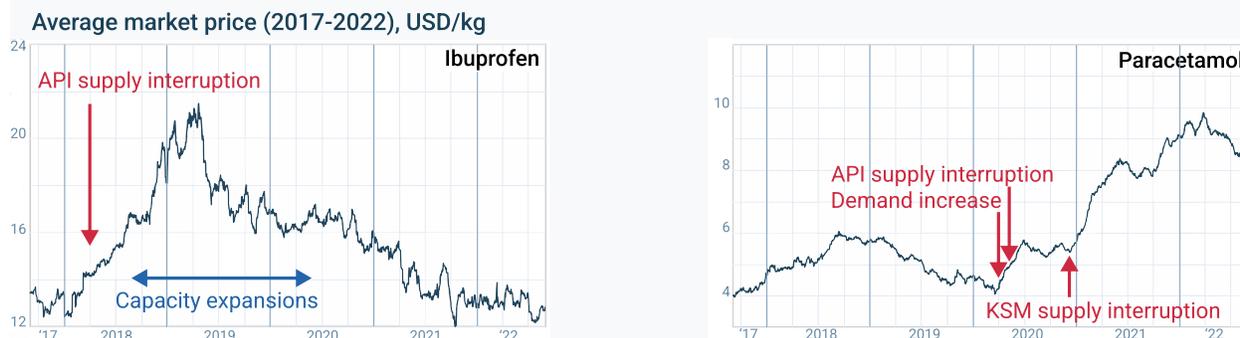


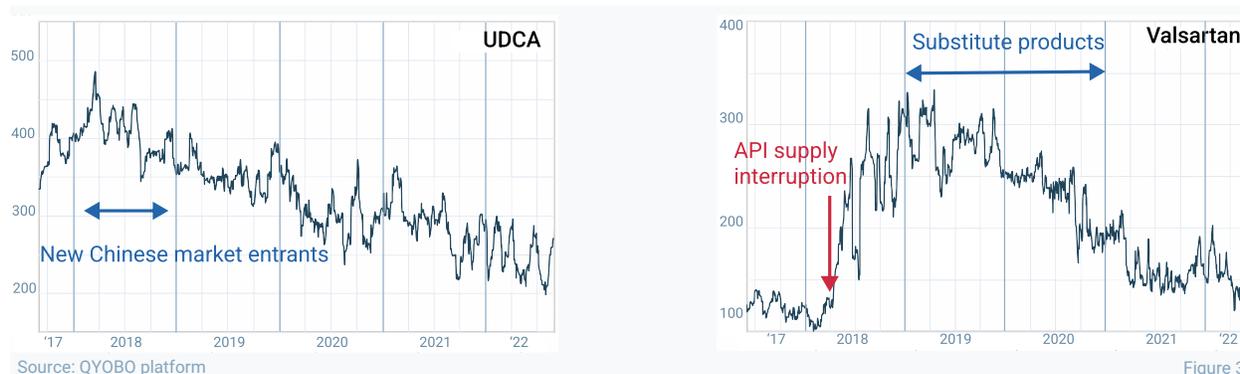
That said, there is unfortunately no general answer as to which APIs have a downwards price trend and thus offer such opportunities. When we investigated potential correlations e.g.,

between the number of API manufacturers and the price increase per molecule to assess whether price dynamics follow a supply-side pattern, no significant correlation could be observed (feel free to [contact us](#) for details). Similarly, using the Anatomical Therapeutic Chemical classification (ATC) as a proxy to assess whether APIs with a similar purpose and effect on patients follow similar price dynamics, showed no clear correlation. The latter is visualized in figure 2 which illustrates the findings at the example of Anti-infectives (green) and Anti-thrombotic agents (orange). The data clearly shows, that across these ATCs, both considerable price increases and decreases occur. The only ATC group that followed a consistent pattern were Cardiovascular drugs aka “statins” (red): APIs such as atorvastatin, pravastatin or rosuvastatin, collectively decreased YoY vs. 2021, with the exception of simvastatin (increase by 2.5%).



To shed some light on why general statements on price dynamics for a group of APIs are not possible, consider figure 3. The chart shows the average market prices between 2017 and 2022 for four of the most commonly known APIs - ibuprofen, paracetamol, UDCA and valsartan. Furthermore, for each of the substances, the underlying factors driving these price dynamics are listed. The wide range of price drivers across these substances – ranging from shutdowns for the API and KSM production (ibuprofen/paracetamol), CoViD-driven demand increases (paracetamol) to new market entrants (UDCA) or substitute products (valsartan) – highlights the conundrum of generalizing price dynamics.





As a result, companies aspiring to achieve or retain market – or even below market – prices, need a systematic, data-driven approach to monitor API and intermediate prices across their entire portfolio which for some of our clients means hundreds of molecules. The reason for this is twofold: First, compared to their peers, they can immediately identify, focus on, and continuously monitor the biggest opportunities as the information is readily available and not compiled ad-hoc. Second, the information advantage derived from a data-driven perspective allows to reach more favorable terms in negotiations, e.g. by quantifying price trends in actual percentage terms or comparing the cost of intermediates and APIs to analyze margins. “In God we trust. All others must bring data.”, a quote attributed to W. Edwards Deming, a former professor at NYU and Columbia university, holds particularly true in an increasingly competitive market environment.

The opportunity to anticipate API prices based on intermediates and AI-driven forecasts as offered by the QYOBO platform provides an additional advantage for companies that have mastered the first step (understanding past and current price dynamics) capturing the value from “big market data”. Our next article will highlight how the AI price forecasts along with intermediate price trends can further support you to spot the right time to buy or sell.

Approach

To calculate the QYOBO API price index “Total trade weighting” method was applied which combines the information from the 300 Top APIs – the most subscribed products by QYOBO clients – to a powerful industry metric.

$$I_y = 100 \times \sum_{i=1}^n \left(\frac{\frac{P_{y,i}}{P_{o,i}} \times (P_{y,i} \times V_{y,i})}{\sum_{i=1}^n P_{y,i} \times V_{y,i}} \right)$$

The weight for a substance (i) in any given year (y) in the index is based on the total trade (as a product of price $P_{y,i}$ and the volume $V_{y,i}$) for the respective year. $P_{o,i}$ is the average yearly price of the base index year (previous to a given year). This approach limits the influence from substances with smaller overall trade size compared to substances with larger trade sizes (such as Ibuprofen, Heparin or Paracetamol).

Glossary

API - Active pharmaceutical ingredient

ATC - Anatomical Therapeutic Chemical classification

KSM - Key starting material

UDCA- Ursodeoxycholic acid

YTD - Year-to-date

YoY - Year-over-year growth

About QYOBO GmbH

QYOBO's mission is to improve access to essential medication for everyone by contributing to a more transparent, efficient and robust supply of pharmaceutical and chemical raw materials.

For this purpose, we've developed the QYOBO market analytics platform for APIs, intermediates and chemicals. From millions of trade, regulatory and financial datasets scattered around the world, our big data algorithms derive unique, actionable insights on market prices and trends, suggest suitable partners for your business and automate data-heavy workflows in procurement, supply chain and business development.

Founded in June 2019 and based in Munich, our company is pursuing its mission collaboratively with its international clients and has been recognized with numerous awards including the BASF market challenge and the Digital Innovation award 2020 by the German Federal Ministry for Economic Affairs & Energy (BMWi).

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