

ABC Policy Brief 2022/11

Record-high gasoline prices?*

Recent headlines in Germany proclaimed 2022 to be the “most expensive gasoline year ever” [1] [2]. Such claims are at best misleading if not simply false and have the potential to harm decarbonization efforts. The reality is that 2022 gasoline prices still fall short of prices in the 1950s in real terms. In fact, gasoline prices have substantially fallen over longer periods of time in the last 70 years, including also in the recent past.

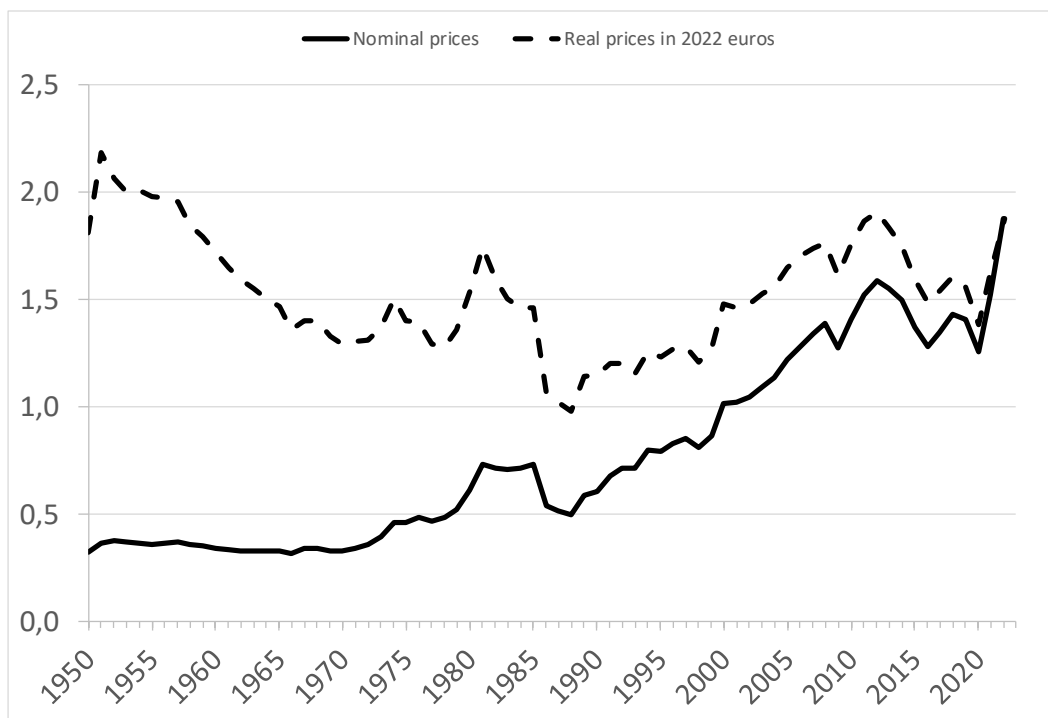
First of all, price comparisons over time, as the ones used by the ADAC or others who have contributed to the headlines that 2022 is the most expensive gasoline year ever, should never be conducted in nominal terms. This would be tantamount to comparing apples with oranges. The purchasing power of a euro today is lower than a euro in prior years. This means that a comparison based on nominal prices suggests a comparability between prices in euros that does not exist. In particular, if claims are being made that gasoline is more or less “expensive”, the purchasing power of a euro needs to be held constant. This means that real prices have to be considered, i.e. prices measured for example in 2022 euros or more precisely the purchasing power of a 2022 euro.

The error one commits if nominal prices are used in a comparison is easily explained using the following example. Consider a trip to a foreign country where the exchange rate between a euro and that country’s currency is 1:10. That means that for every euro your bank would give you 10 units of the foreign currency. If you now go to that country and find out that a coffee costs 20 units of the foreign currency, you also would not claim that coffee is very expensive compared to the two euros you would pay for a coffee at home.

Figure 1 shows nominal annual gasoline prices and real annual gasoline prices in 2022 euros from 1950 until 2022 in Germany. As can be seen, comparing prices by keeping the purchasing power of the unit of measurement, in this case EUR, constant, reveals the true development of gasoline prices over time. Of course, the figure shows that nominal prices have increased over time. This is hardly surprising as inflation will tend to increase nominal prices. A look at the real prices, however, reveals that prices have not yet reached their early 1950 levels and were falling for long stretches of time. Gasoline prices are therefore far from being the highest ever and gasoline has been more “expensive” in the past.

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Figure 1: Price development gasoline (E95/E10), EUR/l

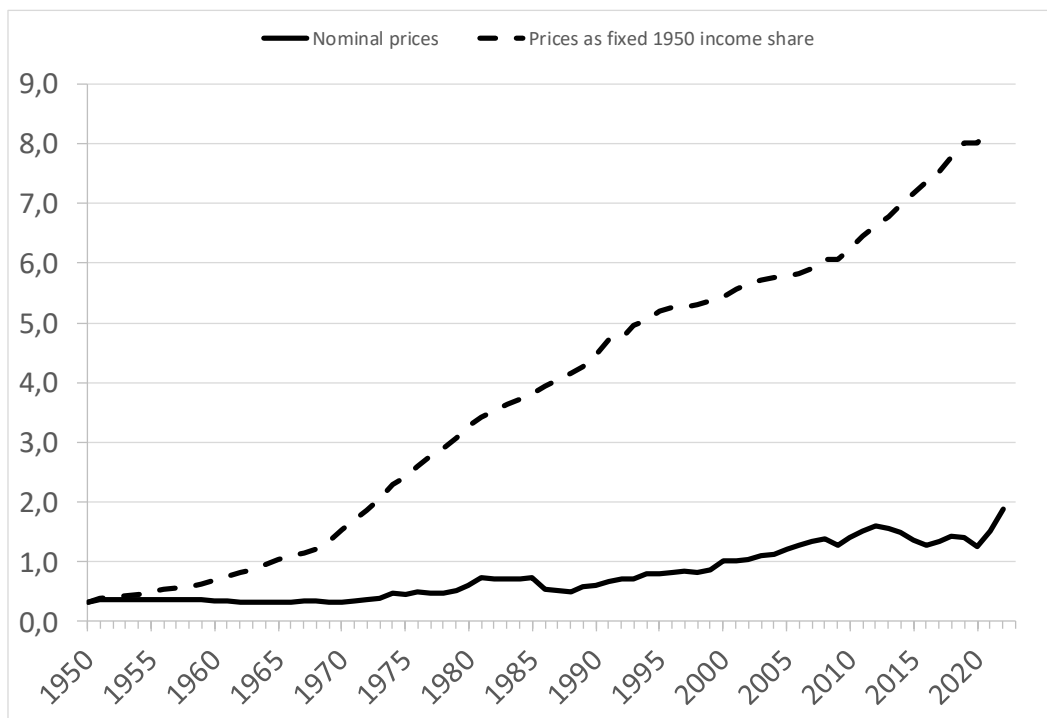


Source: Own calculations based on: Gasoline prices per litre (E95 before 2011, Super E10 afterwards), ADAC e.V. [3] and national price statistics [4]. The graphs depict annual values. Averages from monthly observations until September were used to calculate the 2022 values.

Figure 2 shows again the development of nominal annual gasoline prices in Germany from 1950 until 2022, but now also depicts the gasoline prices that would be observed if prices had developed as a constant share of average income. This is an alternative measure of “expensiveness” as even prices increasing in real terms may not render products more expensive if income increases as well.

In other words, picture a world in which your income is tripled and prices of all products are doubled. That is, real prices have doubled, but given the tripling of your income, products have become substantially less expensive, not more expensive as looking at the doubled prices only may suggest. Looking at figure 2 one can readily see that prices would need to be above 8 EUR for the litre of gasoline to have remained at the 1950 share of income level. This demonstrates that the claim that gasoline has never been more expensive is simply wrong.

Figure 2: Price development gasoline (E95/E10), EUR/l



Source: Own calculations based on: Gasoline prices per litre (E95 before 2011, Super E10 afterwards), ADAC e.V. [3] Gross salaries by worker in euros, BMAS (1950-1969) and StBA (1970-2021). The graphs depict annual values. Averages from monthly observations until September were used to calculate the 2022 value for the nominal price.

Finally, spreading the claim that gasoline prices are at a historical high is also dangerous because it suggests that prices are already addressing climate goals. Clearly the drastic overall decline of gasoline prices to less than one fourth of the price of gasoline - if gasoline prices had developed as a constant share of average income over the last 70 years - is unsuitable to provide the necessary incentives for the required change to a carbon free economy. At Cop27, German chancellor Olaf Scholz confirmed that Germany would exit fossil gasolines “without any ifs or buts” [5] and thereby repeated long agreed policy targets requiring zero carbon emissions on the EU-level. As the dramatic consequences of the gas shortages due to the war in Ukraine show, transforming a market economy to a carbon free market economy is not something that can and should be done overnight [6]. This, however, means that gasoline prices will have to dramatically increase in real terms and also as a share of income in the next few years. It is not clear how this can be achieved, let alone supported by the general public, if claims that gasoline is at a record high or “overpriced” [7] are not questioned.

References

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