



The impact of high energy prices on Dutch national accounts

Stephen Chong
April 27th 2023

Topics discussed

- How quarterly GDP is measured in the Netherlands
- Impact high energy prices on the volume of energy consumption
- Implications for the deflator of household consumption

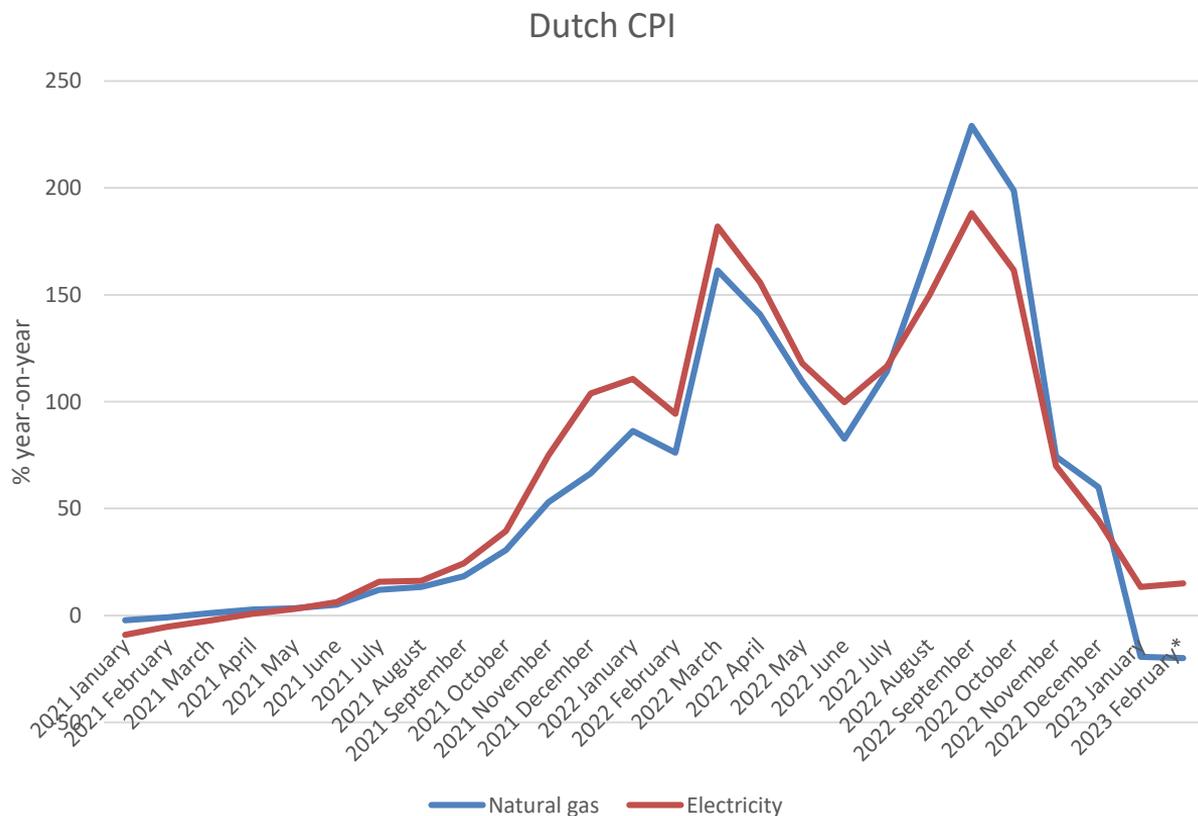
How quarterly GDP is constructed in the Netherlands

- Supply and use framework used to measure quarterly GDP
- 109 industries x 245 productgroups
- Balanced in current and constant prices

How quarterly GDP is constructed in the Netherlands (2)

- Natural gas and energy market:
 - Source for volume of supply and use of natural gas and electricity: Balance sheet of natural gas and electricity compiled by SN on monthly basis
 - Source for prices: Producer Price Indices and Consumer Price Index
 - Value is derived from volume and price indices.

High prices of natural gas and electricity...

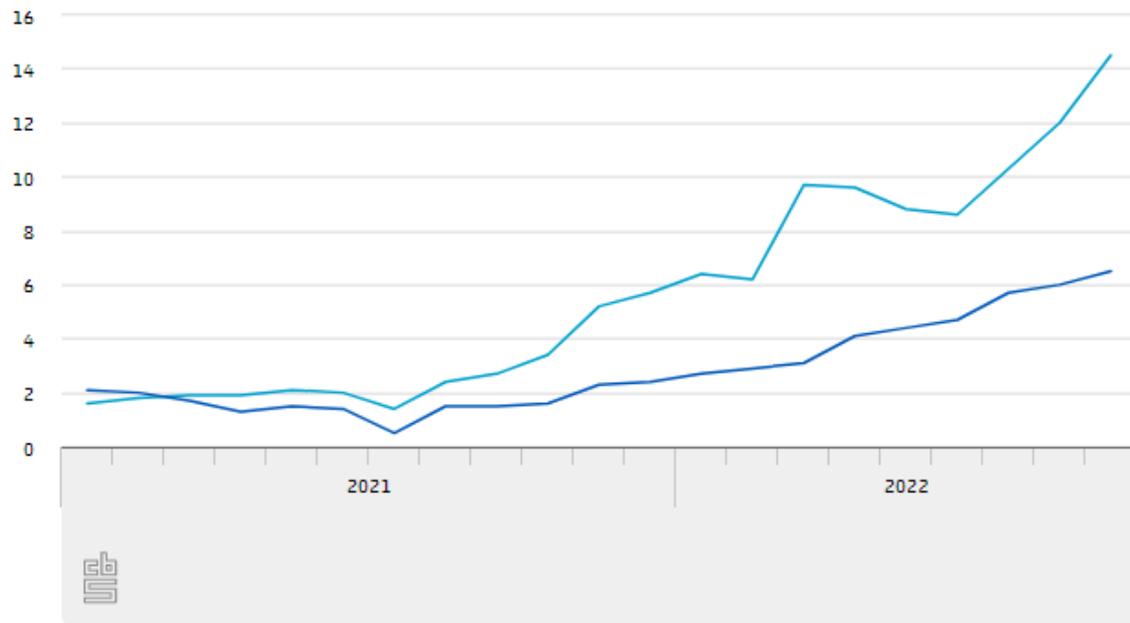


Impact on Dutch CPI....

Inflation (CPI) excluding energy and motor fuels



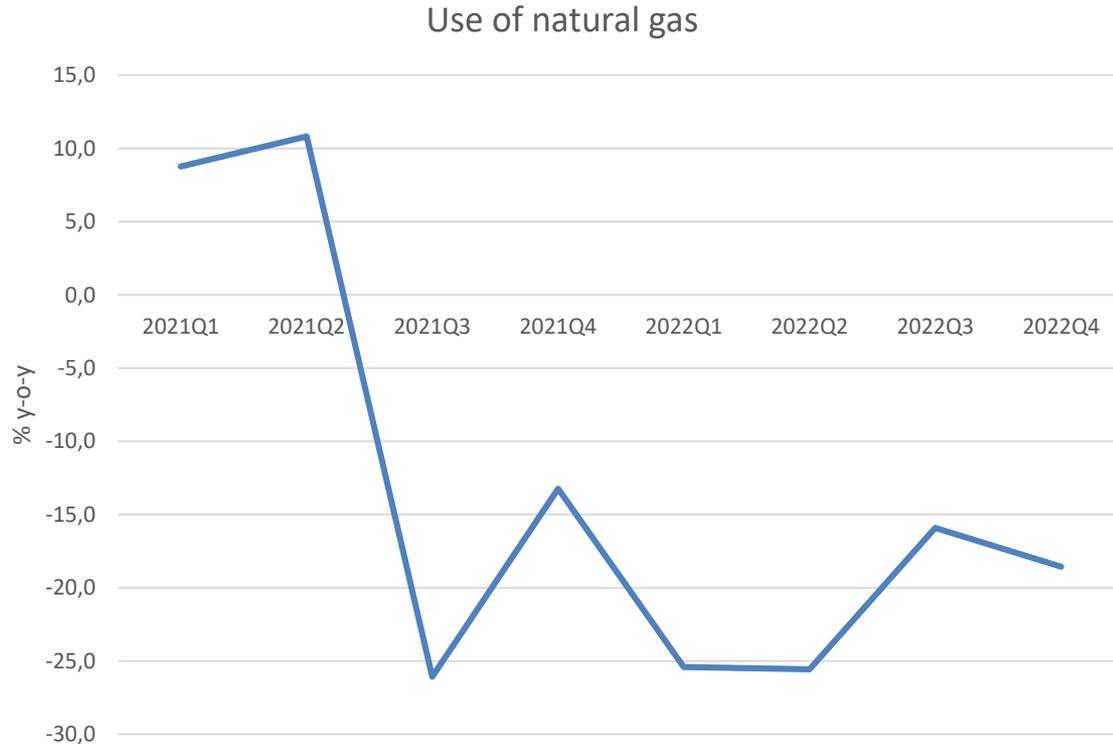
year-on-year % change



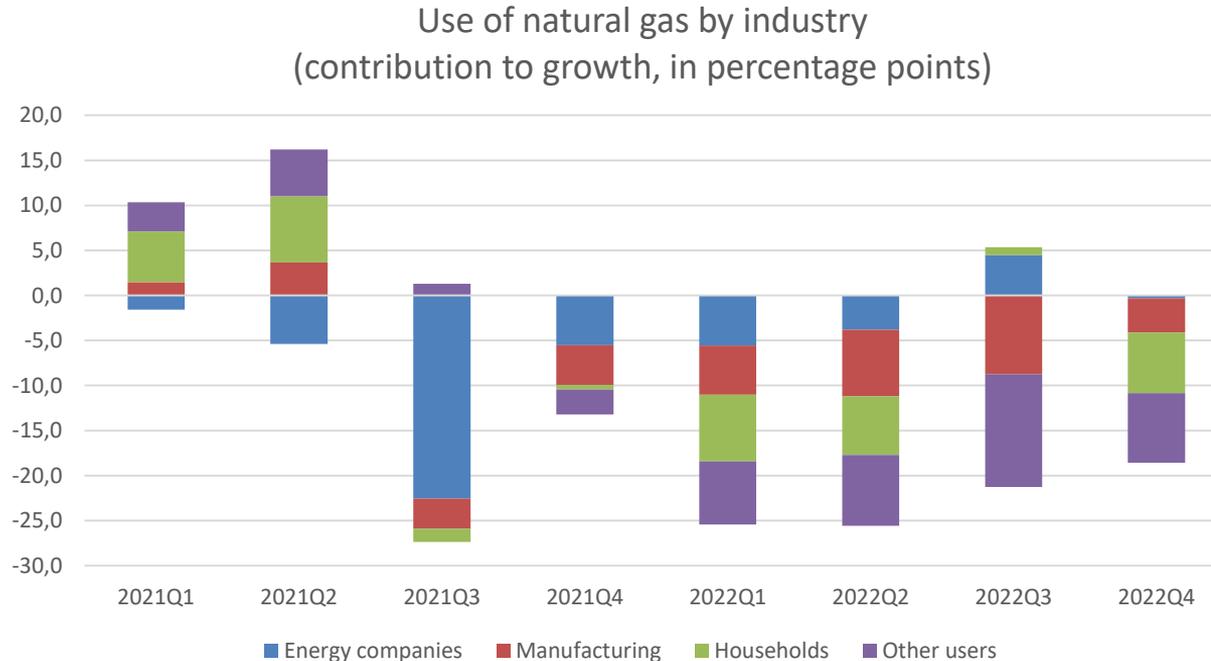
— Inflation (CPI) — Inflation (CPI) excluding energy and motor fuels



Impact high prices on the volume of natural gas consumption



Impact high prices on the volume of natural gas consumption



Implications for the deflator of household consumption

- CPI currently measures prices paid by new customers of energy companies.
- Price-index of consumption in National Accounts has to include fixed and variable contracts, i.e. contracts where prices may change within the contract-period.
- Prices of type of contracts that are missing in CPI increased much more slowly than prices paid by new customers.

An alternative estimation method for the deflator of household consumption of natural gas

- When energy prices started to strongly increase in 2021Q4 colleagues from NA and CPI made an estimate of the price changes of all contracts using information on the prices paid by new customers (= CPI) and the share of each type of contract (variable, 1 and 3 year fixed contracts).

An example

Consumer prices; price index 2015=100

	Periods					
	2017	2018	2019	2020	2021	2022
045200 Gas	103,1	110,8	122,59	125,78	146,74	327,44

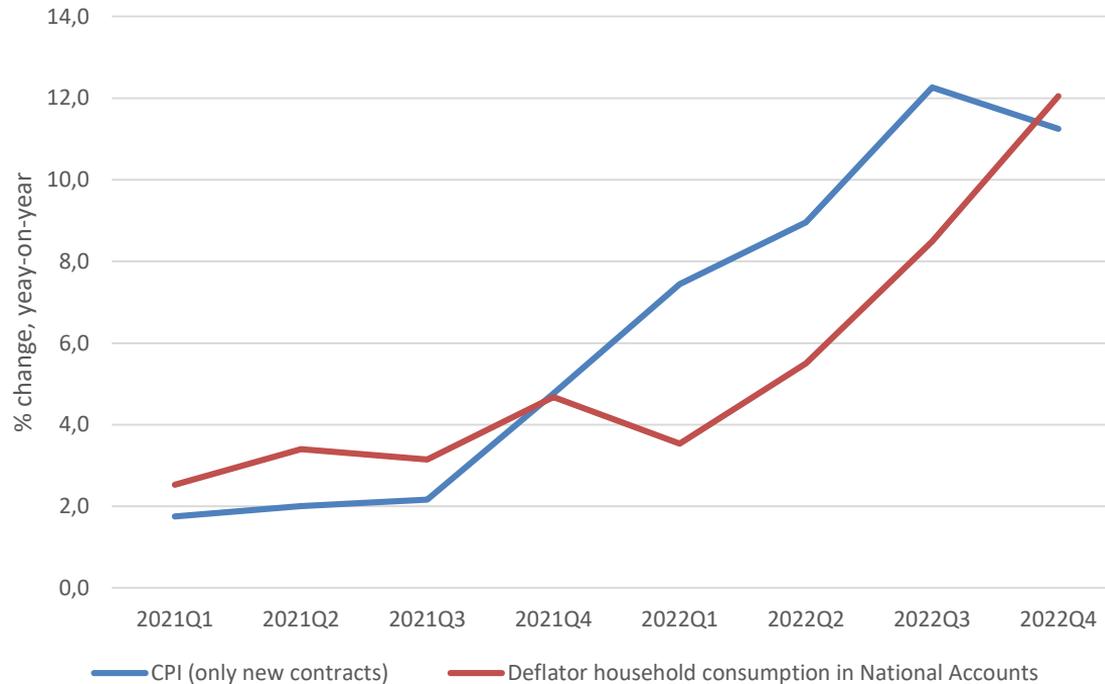
Source: CBS

Type of contract	Share in total number of contracts (in %)	Price index (2015=100)		Price change (% , y-o-y)
		T-1	T	
Variable	50	146,74	327,44	123,1
1 year fixed	15	125,78	146,74	16,7
3 year fixed	35	110,8	122,59	10,6
Total	100			67,8

New data source for measuring the CPI of natural gas and electricity

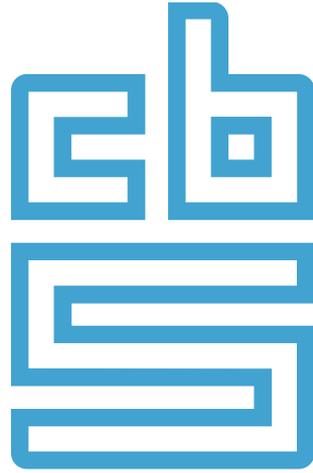
- Recently, detailed customer data of utility companies were made available to SN.
- These data include prices and number of consumer energy contracts provided by the largest utility companies in the Netherlands.
- These transaction data:
 - will be used to calculate a new CPI for natural gas and electricity that take into account existing contracts. First publication in June 2023.
 - are already used in national accounts to calculate the deflator of household consumption for energy products, replacing the method described in previous sheet.

CPI vs deflator household consumption



Concluding remarks

- High energy prices also made it challenging to properly measure gross value added of energy producers in national accounts.
- The Dutch government introduced a price ceiling on the consumption of natural gas and electricity by households starting in January 1st 2023.
- Households also received a fixed 190 euro discount on their energy bills in November and December 2022.



Facts that matter