Discussion of "The Power of Substitution"

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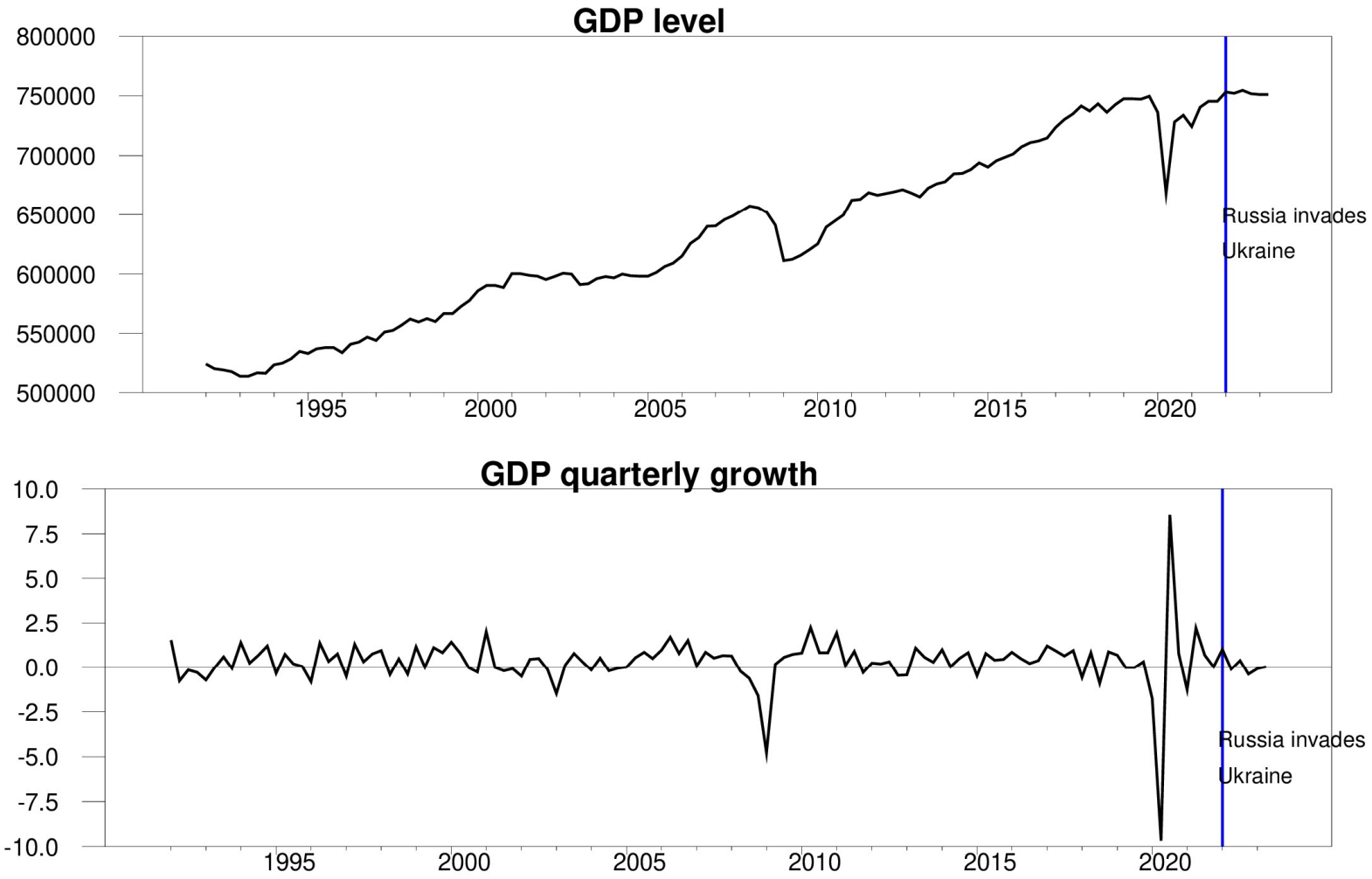
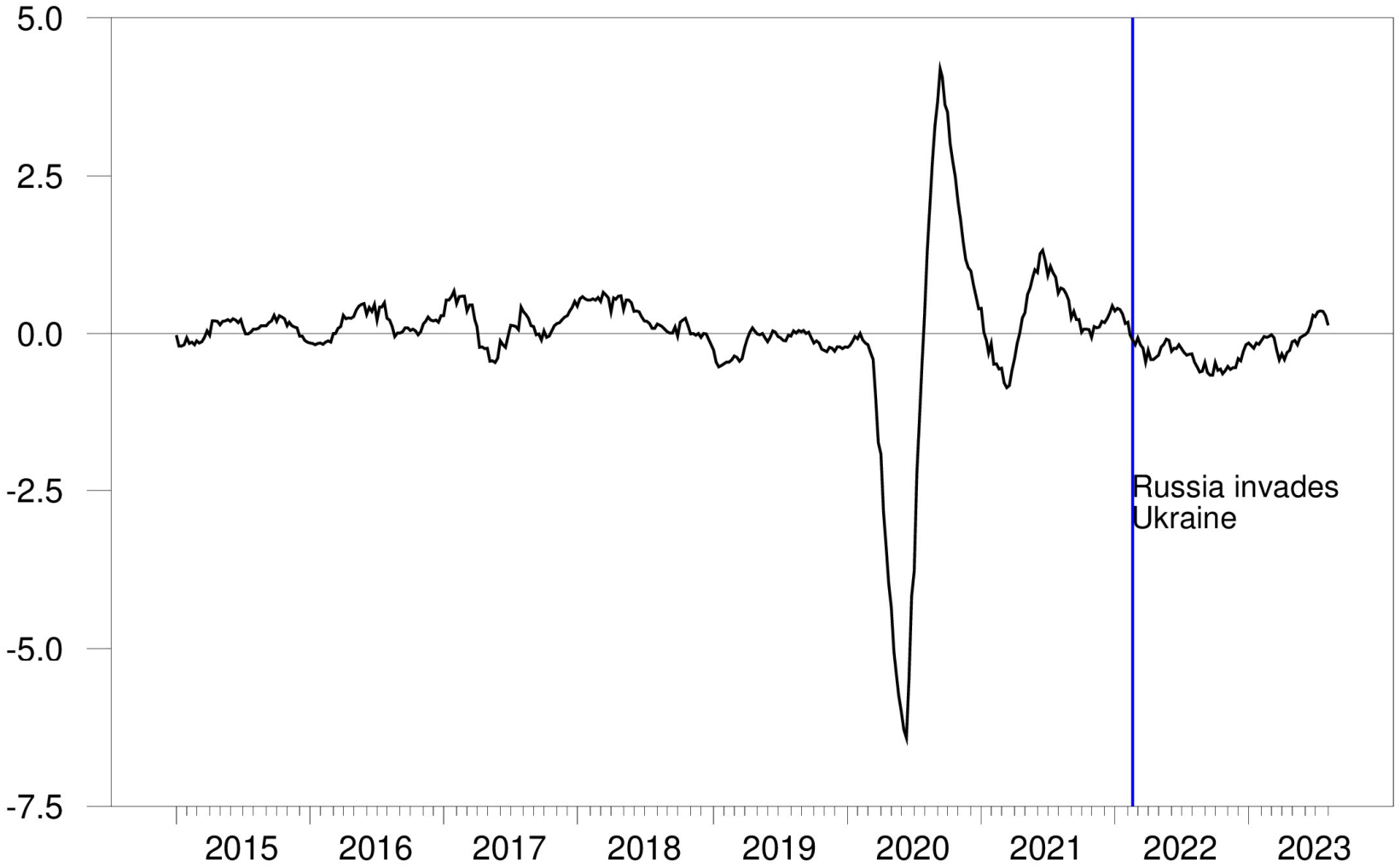
*Thanks to Christiane Baumeister (U.S. state-level weekly economic activity indexes, *REStat forthcoming)*

“Is Germany once again the sick man of Europe?” (*Economist*, Aug 17)



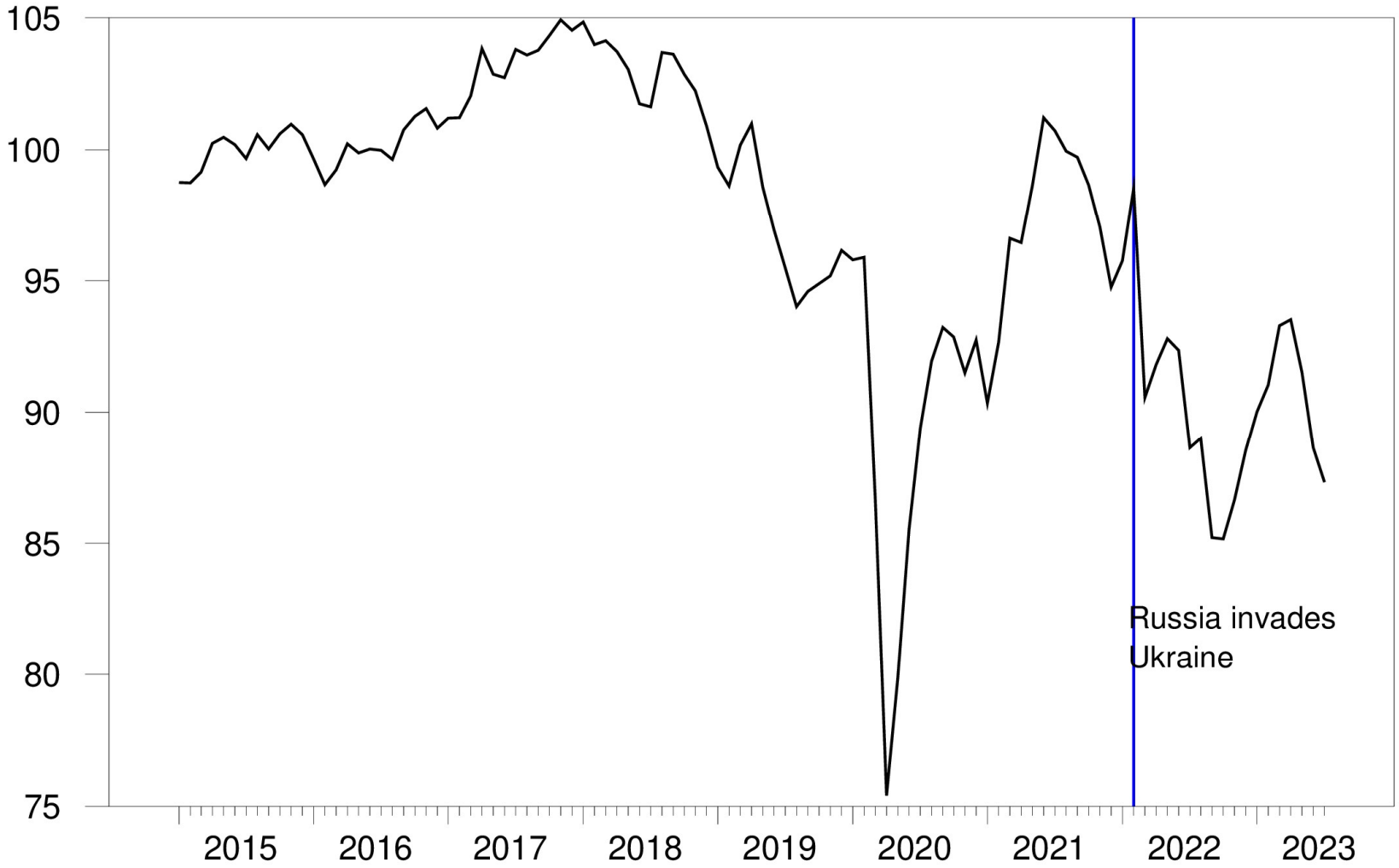
Level and quarterly growth rate of German real GDP. Data source: FRED.

Bundesbank weekly economic activity index for Germany



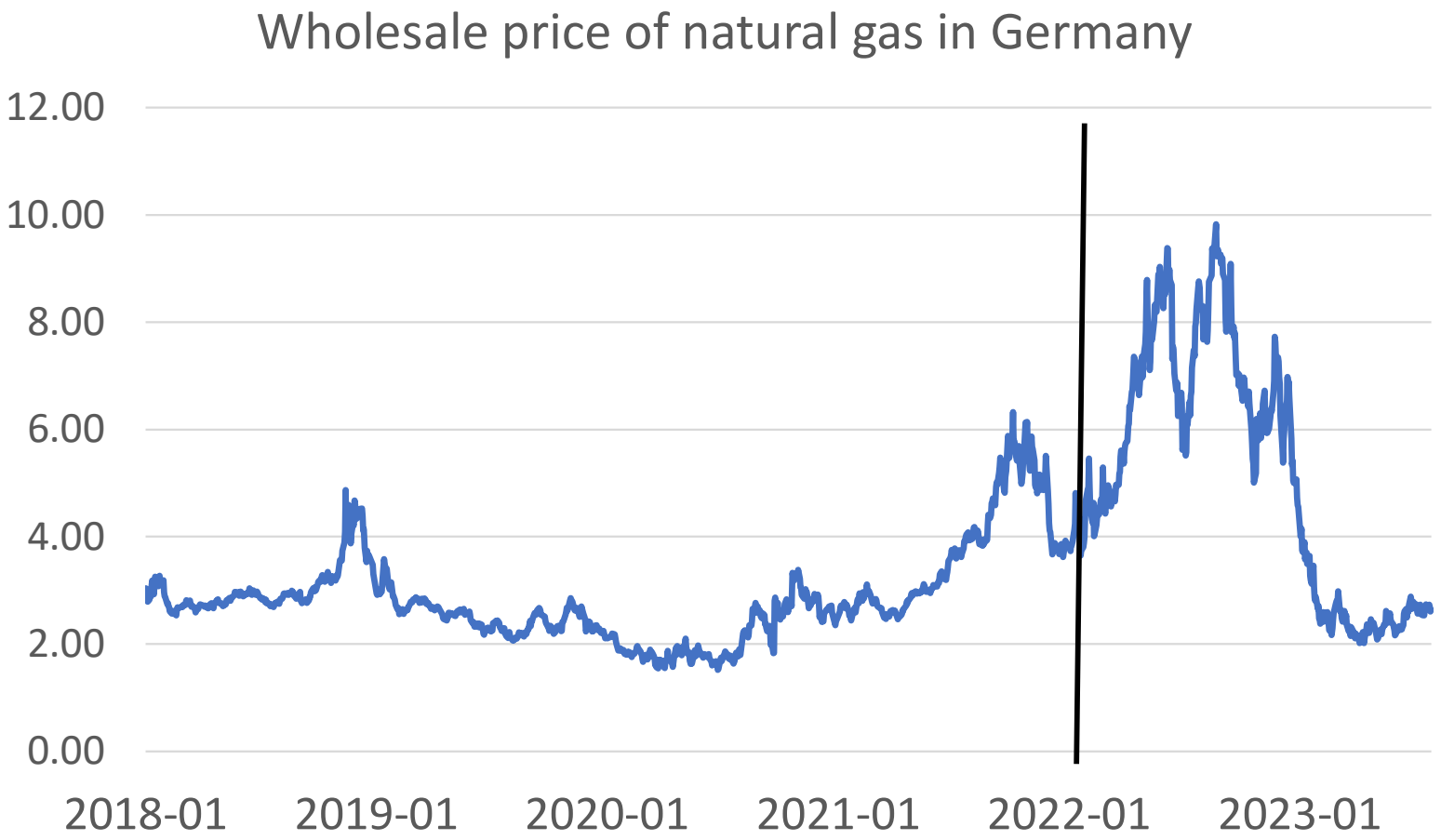
https://www.bundesbank.de/en/statistics/economic-activity-and-prices/weekly-activity-index.

Ifo survey of business conditions



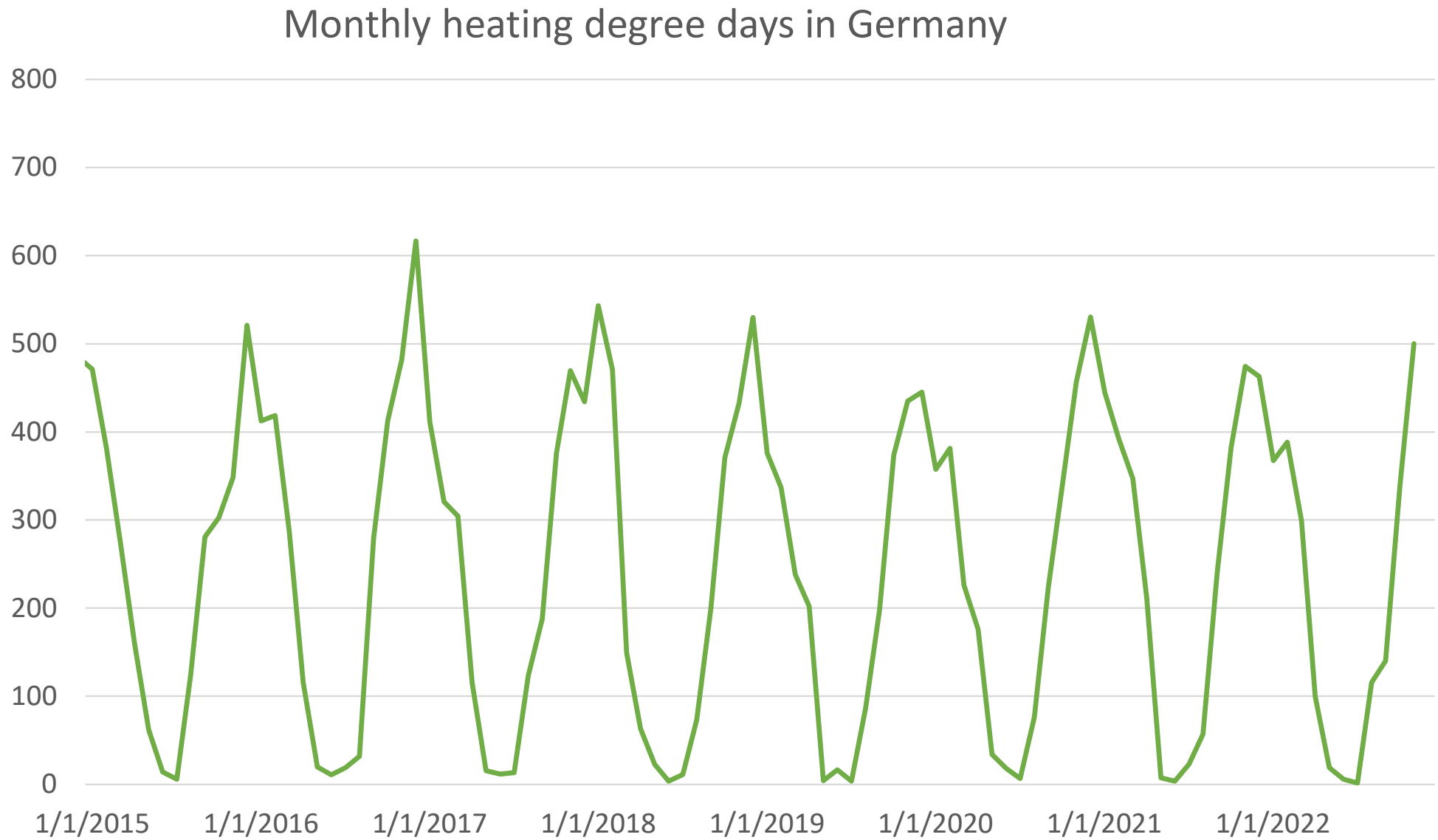
https://www.ifo.de/en/survey/ifo-business-climate-index-germany.

Effect on price was also more modest than expected



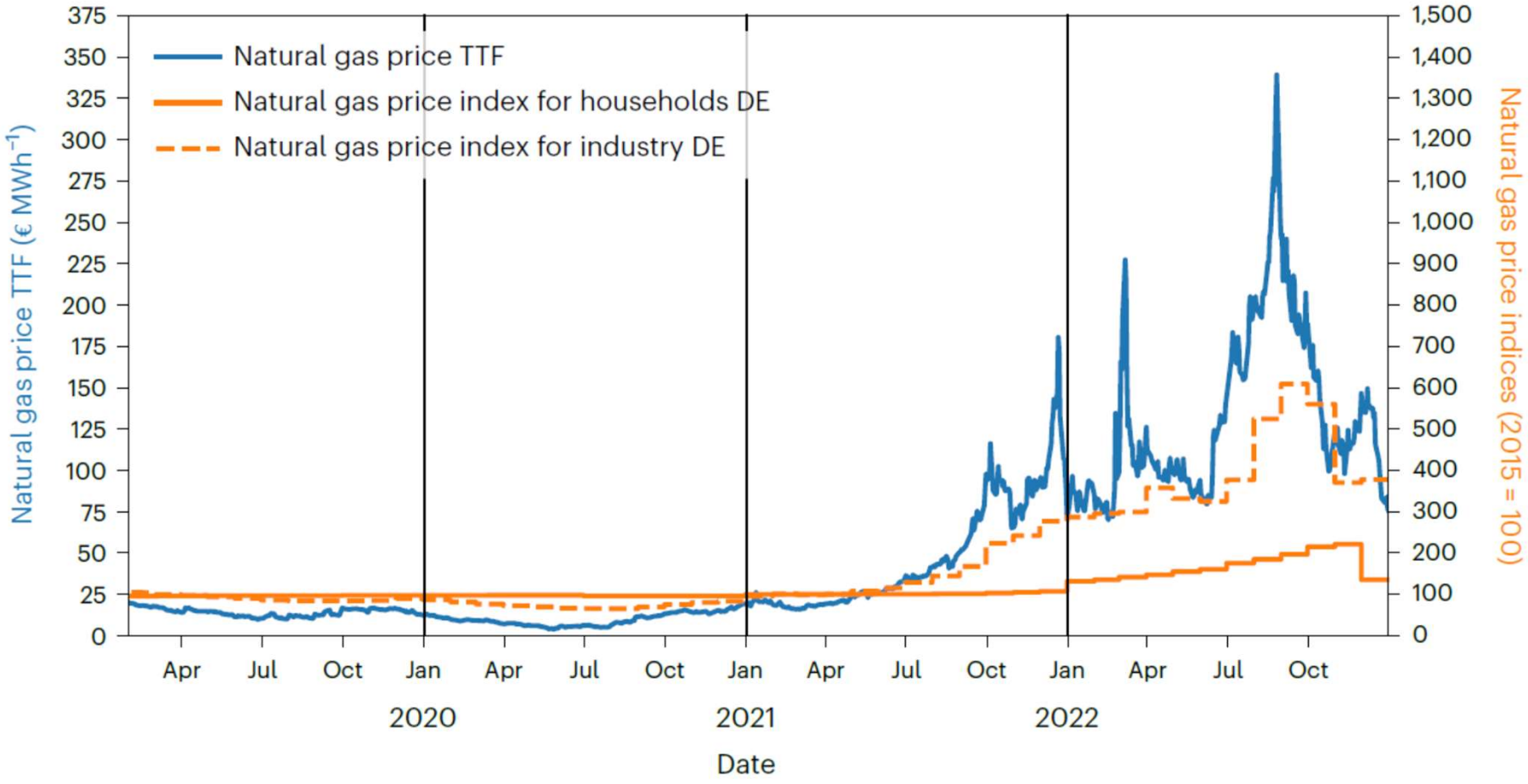
USD/MMBtu https://www.deutsche-boerse.com/dbg-en/products-services/ps-market-data-and-analytics.

Not due to milder winter



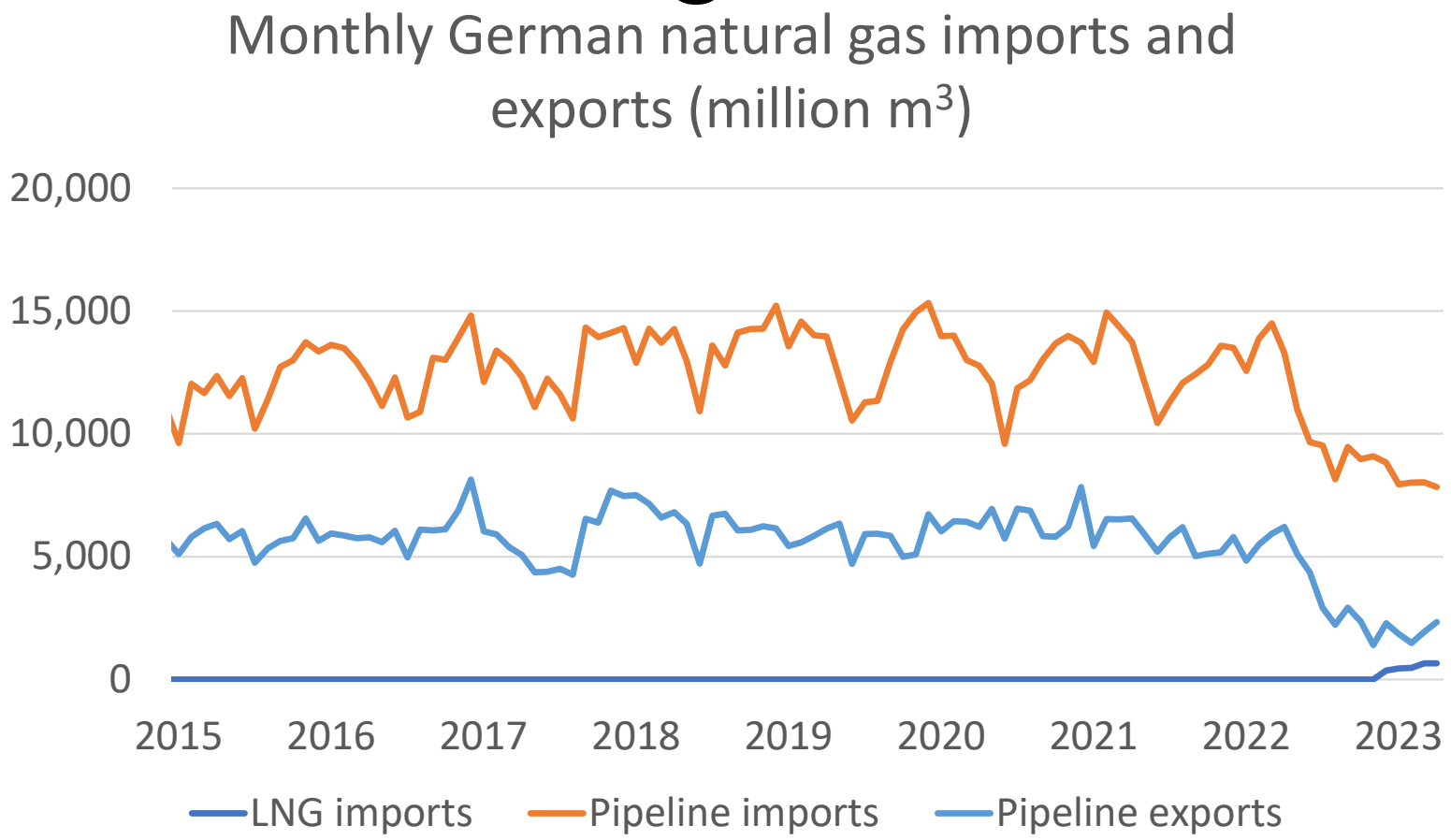
https://ec.europa.eu/eurostat/databrowser/view/NRG_CH_6DD_M__custom_7053640/default/table.

Sluggish pass-through from wholesale price to users



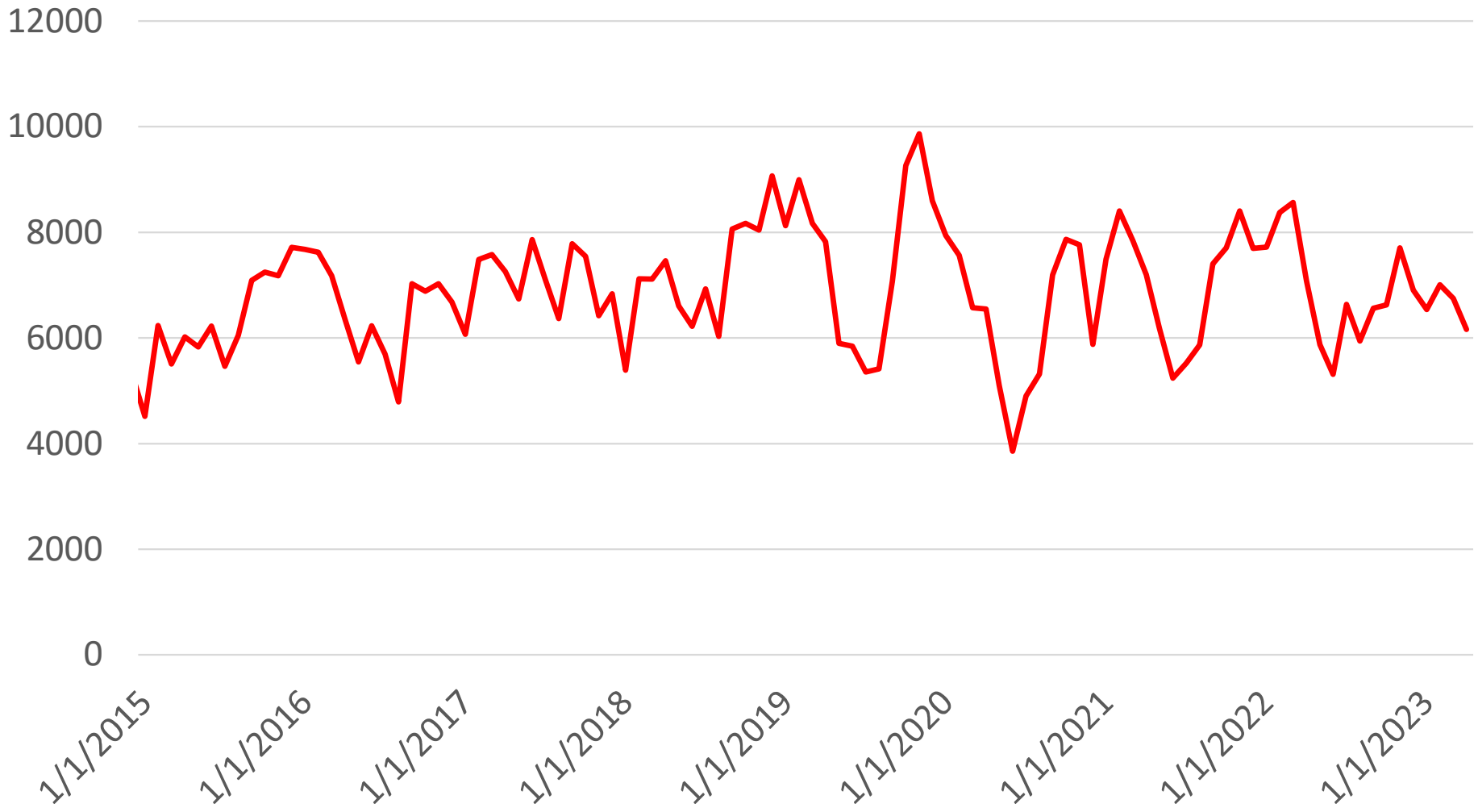
Reproduced from Ruhnau et al. *(Nature Energy* 2023).

Much of cut-off was passed on to France, Belgium, Switzerland



4000 M m^3 = 43 Twh . Data from https://www.jodidata.org/gas/

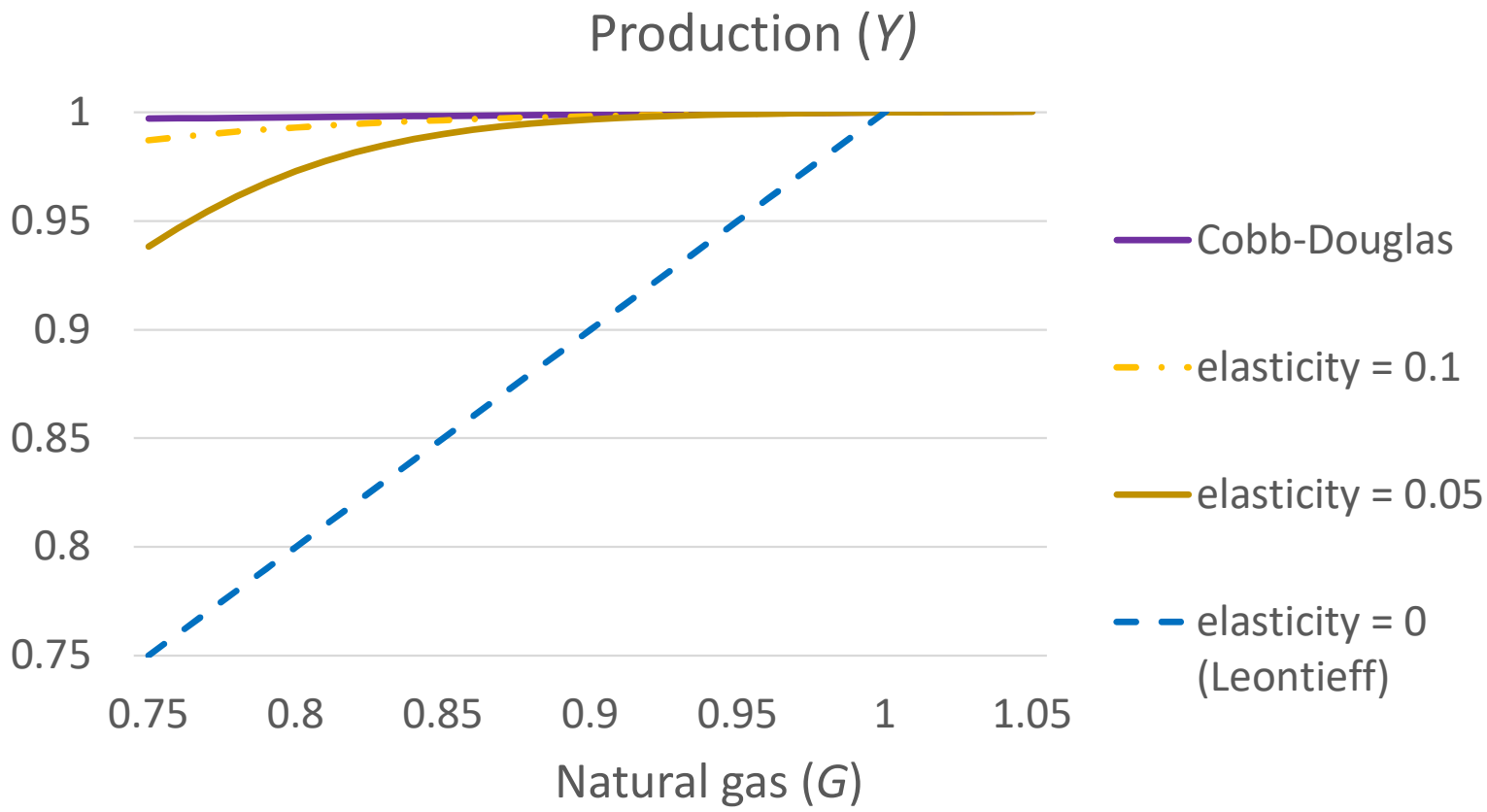
Monthly German net natural gas imports fell from 8B m^3 to 6B m^3



Production function relating output to inputs of gas, capital, and labor

$$Y = \{\alpha^{1/\sigma} G^{(\sigma-1)/\sigma} + (1-\alpha)^{1/\sigma} [F(K,N)]^{(\sigma-1)/\sigma}\}^{\sigma/(\sigma-1)}$$

Plot Y as a function of G with K, N fixed, $\alpha = 0.01$, and various values of σ



Reproduces Figure 4 in paper.

- But drops in employment and capital utilization are defining feature of economic recessions.
- Calculation rules this out by assumption.

- In historical oil price shocks (e.g., 1974, 1979, 1990, 2008) observed big decline in U.S. sales of less fuel-efficient autos.
- Drop in employment and capital utilization in auto sector made material contribution to these economic downturns (Hamilton, BPEA 2009).

- Bachmann et al. (2022) assumed that potentially “fiscal and monetary policies cushion potential demand-side Keynesian effects.”
- Moll et al. (2023) revisit demand effects and conclude that Keynesian-type multipliers arising from nominal rigidities played modest role in recent episode.

- But demand multipliers may arise from specialization of factors of production, not nominal rigidities (Hamilton, 2023).
- These, too, did not arise in current episode for reasons authors discuss.
  - Can lower thermostat without changing any other expenditures.
  - Adjustments limited to specific uses.