

Discussion of
The Power of Substitution
by Moll, Schularick, and Zachmann

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Congrats!

- ▶ The authors did a great service to the public, breaking implications of canonical economic theory down to give sound policy advice in a time of crisis.
- ▶ Their predictions based on “irresponsible use of mathematical models” were borne out ex-post.
- ▶ They were right. They persevered, even under intense public pressure by special interests.
- ▶ The gas shock may have been a major shock for BASF but not for the aggregate economy.

Comments

1. **“Good policy” was key.**

- Predictions based on aggregate production functions *assume* that price signals and incentives are preserved.
- Plenty of examples of bad policy.

2. **Inter-connected European gas markets were very important.**

- Investments made since 2015 really paid off.

3. **General question: how to assess the economic impact of ongoing/future shocks (Gas, Covid, Brexit, debt crises,...)**

- Hard to measure exposure ex-ante.
- Wait several months to verify with (accounting) data.
- Understand the shock after it is too late.

⇒ Systematic analysis of earnings calls can produce powerful insights in real time.

Analyzing Russian Gas Crisis using Earnings Calls

- ▶ Executives at 7k+ firms in 82 countries hold quarterly earnings calls.
- ▶ What do they say about how this shock affects them?

1. Come up with a few keywords associated with discussion of gas supply:
gas supply, gas availability, gas shortage, gas pipeline, Nord Stream, ...

2. For each firm quarter, count:

$GasExposure_{i,t} = \# \text{ Sentences that mention gas}$

$GasRisk_{i,t} = \# \text{ Sentences that mention gas \& risk synonym}$

$GasSentiment_{i,t} = \# \text{ Positive - negative sentences that mention gas}$

3. Read what most affected firms say.

German, Austrian firms most exposed to Russian gas

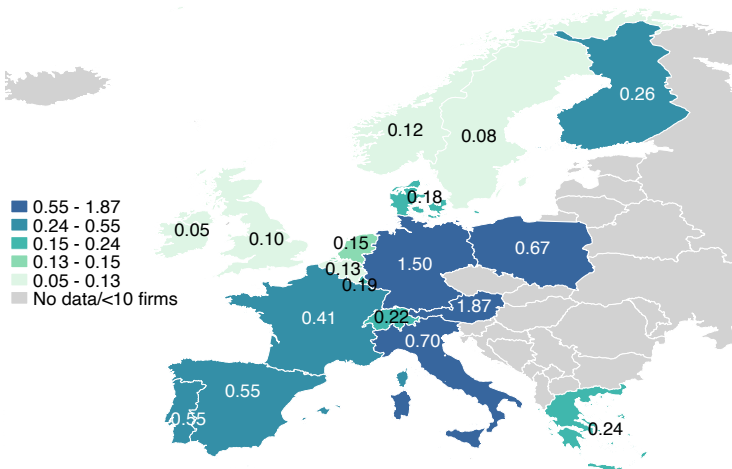
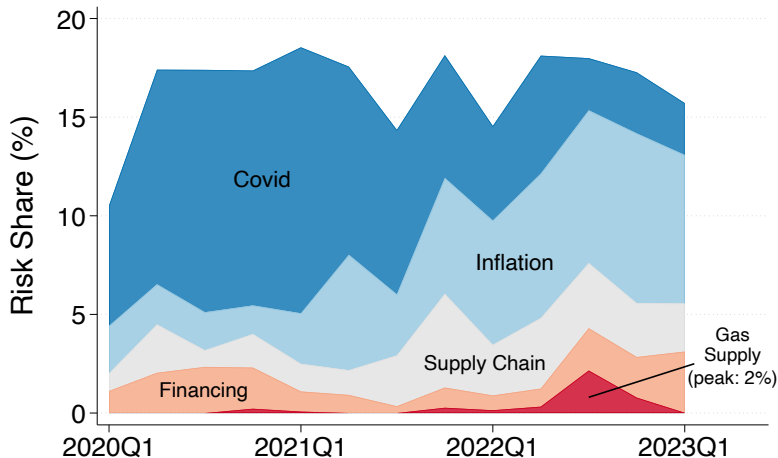


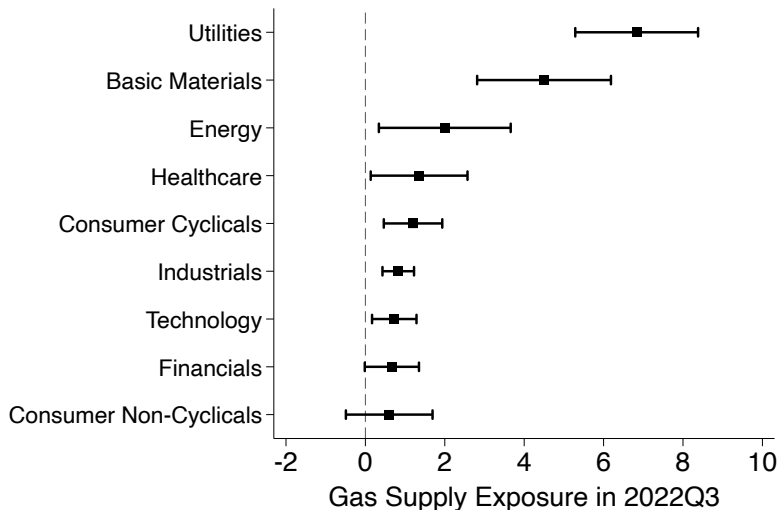
Figure: Natural Gas Exposure in European Countries, 2022Q3

Gas Risk compared to other risks faced by German firms

- ▶ Average transcript mentions risk, uncertainty 6 times.
- ▶ Gas supply shock on-par with financing risks, but less than inflation.
- ▶ Dissipates quickly.



Shock to utilities, basic materials, energy firms



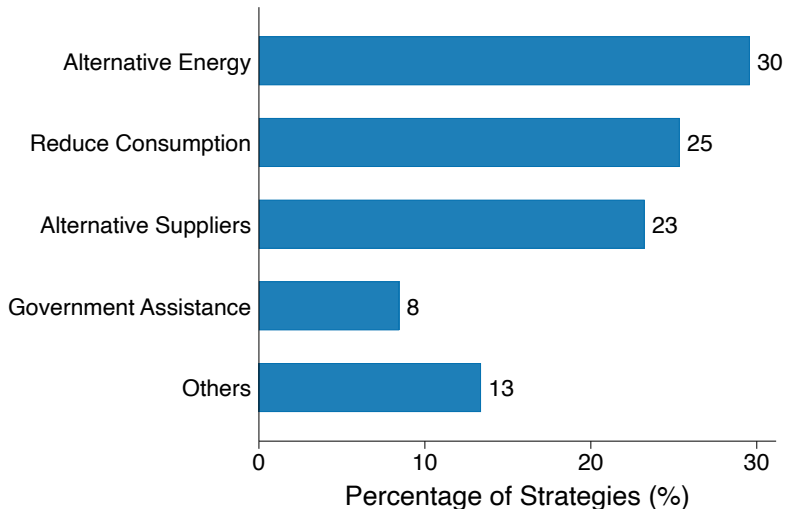
- ... but highly concentrated among firms in the utilities and basic materials sectors.

How do firms adjust?

- ▶ Download text of all 330 mentions of *natural gas supply* by German firms from June 1 to Dec 31 in 2022.
- ▶ Mark sentences (N=157) discussing strategies for addressing natural gas concerns, and classify them into categories.

Strategies	Snippets
Alternative Energy	"...we can generate steam which we need for our production with <i>fuel oil, electricity</i> instead of natural gas..."
Reduce Consumption	"...we prepared ourselves since the beginning of the war on the Ukraine to <i>reduce our gas consumption</i> as best as possible..."
Alternative Suppliers	"...we are also helping to diversify gas supply in Europe through investments in <i>LNG infrastructure and LNG imports</i> ..."

Two main margins of adjustment



Main Insights

1. Germany was unusually dependent on Russian gas
2. Substantial but manageable shock for German firms
3. Transitory and highly concentrated in utilities and basic materials sectors.
4. Main margins of adjustment: reduce consumption and alternative suppliers

Communication to the Press vs Investors

BASF head in FAZ Newspaper, March 31, 2022

- ▶ *Cut-off from Russian gas “could bring the German economy into its worst crisis since the end of World War II and destroy our prosperity.”*

BASF Earnings Call, April 29, 2022

- ▶ *“... we have increased and will further increase our face prices to pass on higher natural gas prices. In our European sites, we are technically feasible preparations to substitute natural gas that alternative feedstocks are ongoing.”*
- ▶ Can decrease consumption by 50% without it ending in disaster.

Conclusion

- ▶ Great paper!
- ▶ Did a great service to the profession.
- ▶ Use systematic analysis of earnings calls to quantify the impact of ongoing / future shocks.
- ▶ Corroborate the predictions of theory.