

Discussion of "The Price of War"

Federle, Meier, Müller, Mutschler, and Schularick

Marco Pinchetti

Bank of England and CfM

DNB Annual Conference 21st November 2024

The views expressed in this presentation are those of the author and do not necessarily represent the views of the Bank of England.



Research Question

What is the economic impact of wars on output and inflation, both locally and globally?

Research Question

What is the economic impact of wars on output and inflation, both locally and globally?

Research Question

What is the economic impact of wars on output and inflation, both locally and globally?

- 1. Assembles 150 years of data for 60 countries
 - + very granular data including information on war sites and casus belli

Research Question

What is the economic impact of wars on output and inflation, both locally and globally?

- 1. Assembles 150 years of data for 60 countries
 - + very granular data including information on war sites and casus belli
- 2. Estimates the effect of wars on macro outcomes via local projections
 - + linear, smooth transition model, tons of robustness checks

Research Question

What is the economic impact of wars on output and inflation, both locally and globally?

- 1. Assembles 150 years of data for 60 countries
 - + very granular data including information on war sites and casus belli
- 2. Estimates the effect of wars on macro outcomes via local projections
 - + linear, smooth transition model, tons of robustness checks
- 3. Interprets the empirical results through the lenses of a DSGE model
 - + war shock = TFP loss + capital destruction + military spending + monetary easing

Research Question

What is the economic impact of wars on output and inflation, both locally and globally?

What the Paper Does

- 1. Assembles 150 years of data for 60 countries
 - + very granular data including information on war sites and casus belli
- 2. Estimates the effect of wars on macro outcomes via local projections
 - + linear, smooth transition model, tons of robustness checks
- 3. Interprets the empirical results through the lenses of a DSGE model
 - + war shock = TFP loss + capital destruction + military spending + monetary easing

What the Paper Finds

- * War sites experience 20% output loss and 10% inflation rise on average (supply-like effect)
- * Strength of spillovers depends on geographic and economic distance

Research Question

What is the economic impact of wars on output and inflation, both locally and globally?

What the Paper Does

- 1. Assembles 150 years of data for 60 countries
 - + very granular data including information on war sites and casus belli
- 2. Estimates the effect of wars on macro outcomes via local projections
 - + linear, smooth transition model, tons of robustness checks
- 3. Interprets the empirical results through the lenses of a DSGE model
 - + war shock = TFP loss + capital destruction + military spending + monetary easing

What the Paper Finds

- * War sites experience 20% output loss and 10% inflation rise on average (supply-like effect)
- * Strength of spillovers depends on geographic and economic distance

Contribution

Empirical evaluation of international spillovers of wars

Main Result



Preview of Comments

Comment #1

Are Wars All Alike?

Comment #2

The International Transmission of Supply Shocks

Comment #3

Multiple Equilibria

> Wars can be associated with distinct disturbances [energy disruptions, trade fragmentation...]

- > Wars can be associated with distinct disturbances [energy disruptions, trade fragmentation...]
- ▶ Think of Russia-Ukraine vs. China-Taiwan

- Wars can be associated with distinct disturbances [energy disruptions, trade fragmentation...]
- ► Think of Russia-Ukraine vs. China-Taiwan
- ▶ Impact of wars might depend on nature of disruptions → different macro implications

- Wars can be associated with distinct disturbances [energy disruptions, trade fragmentation...]
- Think of <u>Russia-Ukraine</u> vs. <u>China-Taiwan</u>
- ▶ Impact of wars might depend on nature of disruptions → different macro implications
- Great occasion to promote my recent paper on "Geopolitical Risk and Inflation" (2024)

Geopolitical Risk and Inflation: The Role of Energy Markets

Marco Pinchetti

¹Bank of England & CfM

- Very close connection between war developments and geopolitical risk indices
 - * GPR index mainly captures (i) wars, (ii) international crises, and (iii) terror attacks



FIGURE 3. HISTORICAL GPR INDEX FROM 1900

▶ Idea: Geopolitical risk fluctuations driven by fundamentally different classes of shocks

▶ Idea: Geopolitical risk fluctuations driven by fundamentally different classes of shocks

- * Geopolitical macro: depress macro activity \rightarrow lower oil demand \rightarrow GPR \uparrow and WTI \downarrow
- * Geopolitical energy: raise expectations of an oil supply squeeze → GPR ↑ and WTI ↑

▶ Idea: Geopolitical risk fluctuations driven by fundamentally different classes of shocks

- * Geopolitical macro: depress macro activity \rightarrow lower oil demand \rightarrow GPR \uparrow and WTI \downarrow
- * Geopolitical energy: raise expectations of an oil supply squeeze → GPR ↑ and WTI ↑
- **Challenge:** How to disentangle the effect of these two different shocks?

Idea: Geopolitical risk fluctuations driven by fundamentally different classes of shocks

- * Geopolitical macro: depress macro activity \rightarrow lower oil demand \rightarrow GPR \uparrow and WTI \downarrow
- * Geopolitical energy: raise expectations of an oil supply squeeze → GPR ↑ and WTI ↑
- Challenge: How to disentangle the effect of these two different shocks?
- Solution: sign restrictions on daily variation of GPR and oil prices around geopolitical events
 * [in the spirit of Jarocinski and Karadi 2020]

Takeaway: Distinct classes of geopolitical shocks lead to different consequences for inflation







Sign restrictions might help isolate demand forces from the supply component in war shocks

> The empirical evidence shows that war shocks propagate to other countries with same signs

* a war in country A decreases output and increases prices for both A and B

- The empirical evidence shows that war shocks propagate to other countries with same signs * a war in country A decreases output and increases prices for both A and B
- The literature on Keynesian supply shocks highlights the role of the elasticities of substitution
 - * Corsetti et al. (2008), Guerrieri et al. (2022), Cesa Bianchi and Ferrero (2021)

- The empirical evidence shows that war shocks propagate to other countries with same signs
 a war in country A decreases output and increases prices for both A and B
- The literature on Keynesian supply shocks highlights the role of the <u>elasticities of substitution</u>
 - * Corsetti et al. (2008), Guerrieri et al. (2022), Cesa Bianchi and Ferrero (2021)
- Due to complementarities, supply shocks can at times transmit via demand channels
 - * both complementarities on the consumption and the production side play a role

- The empirical evidence shows that war shocks propagate to other countries with same signs
 a war in country A decreases output and increases prices for both A and B
- The literature on Keynesian supply shocks highlights the role of the <u>elasticities of substitution</u>
 - * Corsetti et al. (2008), Guerrieri et al. (2022), Cesa Bianchi and Ferrero (2021)
- > Due to complementarities, supply shocks can at times transmit via demand channels
 - * both complementarities on the consumption and the production side play a role
- ► To illustrate this point, let me focus on <u>complementarities in the production network</u>
 - * Corsetti, D'Aguanno, Dogan, Lloyd, and Sajedi (2023)







> By assuming a constant elasticity of substitution, the model captures well the average effect

- > By assuming a constant elasticity of substitution, the model captures well the average effect
- However, elasticities of substitution are likely to differ at country-pair level
 - * potential source of heterogeneity in the propagation of the same shock

- > By assuming a constant elasticity of substitution, the model captures well the average effect
- However, elasticities of substitution are likely to differ at country-pair level
 * potential source of heterogeneity in the propagation of the same shock
- I wonder whether this form of heterogeneity can be studied in the cross-section
 * this might contribute to shed light on the transmission mechanism of these shocks
- Interaction of country-pair fixed effects with war shock in local projections specification

Figure from Viquery (2022): "The Rise and Fall of Global Currencies over Two Centuries"



[on y-axis: response of index of currency dominance to military events]

Figure from Viquery (2022): "The Rise and Fall of Global Currencies over Two Centuries"



[on y-axis: response of index of currency dominance to military events]

Figure from Viquery (2022): "The Rise and Fall of Global Currencies over Two Centuries"



[on y-axis: response of index of currency dominance to military events]

- > Wars are more frequent and more important for macro dynamics than commonly thought!
 - * unconditional probability of indirect exposure: 11.4%

> Wars are more frequent and more important for macro dynamics than commonly thought!

* unconditional probability of indirect exposure: 11.4%

Significant contribution to the literature on the macroeconomic effects of wars

> Wars are more frequent and more important for macro dynamics than commonly thought!

* unconditional probability of indirect exposure: 11.4%

Significant contribution to the literature on the macroeconomic effects of wars

Novel and exciting field

> Wars are more frequent and more important for macro dynamics than commonly thought!

* unconditional probability of indirect exposure: 11.4%

Significant contribution to the literature on the macroeconomic effects of wars

Novel and exciting field

Great paper - I look forward to seeing it published