Economic Commentary

How is Swedish inflation affected by geopolitical risk?

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How is Swedish inflation affected by geopolitical risk?

Geopolitical risk has become an increasingly topical subject in recent years. In this Economic Commentary, we analyse how changes in geopolitical risk affect inflation and the Swedish economy as a whole. We use a news-based geopolitical risk index, which, on a monthly basis, measures the proportion of articles mentioning adverse geopolitical situations. We distinguish between geopolitical risk that is global and risk that is specific to Sweden. Our analysis suggests that increases in geopolitical risk that is specific to Sweden lead to higher CPIF inflation. The CPIF sub-indices are affected in a similar way, with food and goods inflation being more sensitive to geopolitical risk than services inflation. The krona weakens and the stock market declines as Sweden-specific geopolitical risk increases. The GDP indicator reacts weakly and negatively. Our results suggest that increases in Sweden-specific geopolitical risk mainly affect the economy via the supply side and the exchange rate. Our findings are in line with previous research. The effects following increased global geopolitical risk are generally more muted.

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Important to understand how geopolitical risk affects the economy

With the increase in global tensions in recent years, geopolitical risk has become an increasingly topical issue, and an elevated risk level naturally has significant effects on Swedish society. For economic policymakers, it is important to understand how geopolitical risk affects the economy, in order to better factor such risks into economic policy decisions.

For the Riksbank, it is particularly important to understand how increased geopolitical risk affects inflation. However, the effects of heightened geopolitical risk on inflation are not self-evident. Research supports the view that both supply and demand effects can influence inflation, but in different directions. Our aim with this Commentary is primarily to analyse the relationship between geopolitical risk and inflation, but also to highlight how other important aspects of the economy are affected.

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Supply and demand effects can affect inflation in different directions

Heightened geopolitical risk affects the economy through various channels. An important distinction arises between effects that work via demand and those that work via supply in the economy. Increased uncertainty due to heightened geopolitical risk may cause households to save more and consume less and firms to postpone investments. This reduces demand and dampens inflationary pressures. On the other hand, higher geopolitical risk can lead to higher commodity costs and import prices for companies, which they then pass on to consumers, leading to an increase in inflation.

Several studies show that geopolitical risk tends to affect the economy in much the same way, but there are exceptions. Caldara et al. (2024) analyse the relationship between inflation and geopolitical risk in different countries, both from a long historical perspective when countries are directly involved, but also from a shorter contemporary perspective when the risk is at the global level. They conclude that inflation is affected via both demand and supply effects, regardless of whether it concerns geopolitical risk at a global level or when the country is directly involved. The supply effects generally dominate, and elevated geopolitical risk tends to be linked to increased inflationary pressures and lower economic growth. Furthermore, geopolitical risk tends to increase uncertainty about future inflation.

Research analysing the effect of global geopolitical risk, but focusing specifically on the euro area, produces similar findings. At the same time, increased geopolitical risk at the global level affects financial investment, as stock markets in the euro area are negatively affected by increased risk while the euro weakens against the dollar (Dieckelmann et al., 2024).

Although the supply effects tend to dominate, there are differences between geopolitical events. Russia's invasion of Ukraine has had effects on the euro area that are similar to a supply shock with lower economic growth and increased inflationary pressures. However, the conflict between Hamas and Israel appears to have reduced both growth and inflation in the euro area, and unlike other supply-dominated disruptions, oil prices do not appear to have risen. Thus, it is not always the case that supply effects dominate (Anttonen and Lehmus, 2024).

Another distinction is between geopolitical threats, and thereby an increased likelihood of a future geopolitical event occurring, and its actual occurrence. Brignone et al. (2025) find a clear difference in how the two components affect inflation in the United States. An increased risk of future adverse global events tends to be inflationary, with increases in oil prices and inflation expectations. This could be due to expectations of delivery disruptions and cost increases for companies. The effect when a global adverse event actually occurs is less clear, but tends to dampen inflationary pressures, similar to an adverse demand shock. Both threats and actual occurrences are considered when we refer to the concept of geopolitical risks below, unless otherwise stated.

Both global and Sweden-specific geopolitical risk have increased in recent years

Internationally, the effect of geopolitics appears relatively clear, but the question remains of how Sweden is affected, both when the global risk level increases and when Sweden is directly involved. To answer this question, we follow the earlier literature and use a news-based measure, which measures the proportion of articles at major international news agencies that mention adverse geopolitical situations (Caldara and Iacoviello, 2022).[2] This measure also distinguishes between geopolitical risk that is global, and that which only relates to individual countries, such as Sweden. For geopolitical risk related to Sweden only, the articles must also mention Sweden or one of Sweden's largest cities. The Sweden-specific measure therefore indicates the intensity of international reporting on Sweden in adverse geopolitical situations.

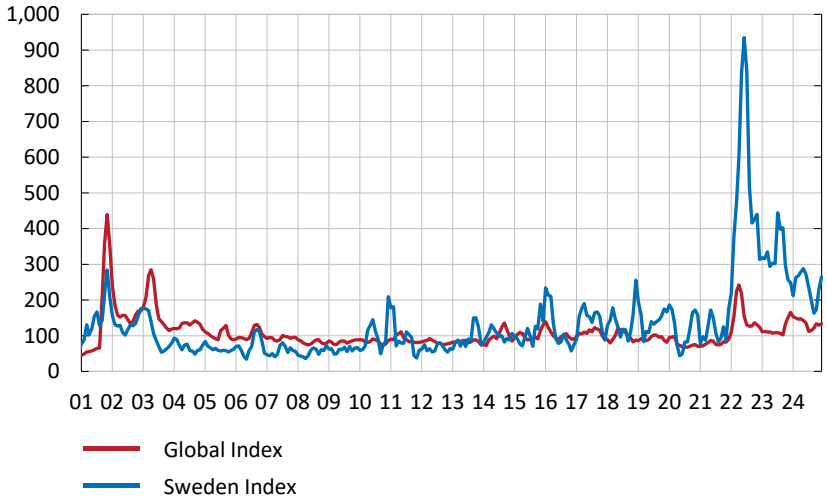
Diagram 1 illustrates the development of global and Sweden-specific geopolitical risk from 2001 to 2024. Since the beginning of 2022, there has been a clear increase in the reporting of adverse geopolitical events, both when it comes to global situations and when Sweden is directly involved. Global and Swedish geopolitical risk tend to covary, which indicates that Sweden-specific risk to some extent may have its origin abroad.

The fact that country-specific geopolitical risk for Sweden measures Sweden-specific risk is also supported by the fact that the measure sometimes deviates from the global index. For example, the measure rose significantly in May 2022 when Sweden applied for NATO membership, and in mid-2023 in the context of the escalations following the Quran burnings. Instead, the global measure rose considerably more than the Swedish measure in connection with the terrorist attacks in September 2001 and in March 2003 when the war in Iraq began. Appendix A details various episodes of elevated risk in Sweden.

[2] An alternative measure of risk is the CBOE VIX index, which measures risk in the US stock market. However, we stick to the news-based measure, as it specifically measures geopolitical and Sweden-specific risk, and does not capture other types of risk.

Diagram 1. Global and Sweden-specific geopolitical risk

Index 1985–2019 = 100, three-month moving average



Source: Caldara and Iacoviello (2022)

Increased geopolitical risk tends to lead to higher inflation

To analyse the effects of geopolitical risk on inflation and the economy, we use an econometric time series model, known as a VAR model. [3] As a first step, we include in the model the measure of global risk, country-specific risk for Sweden and annualised CPIF inflation or the inflation rate in one of the sub-groups for goods, food, services or energy.[4] In a second step, we also include the exchange rate against the euro, Statistics Sweden's GDP indicator, the OMXS30 stock market index or the Riksbank's policy rate.

Diagram 2 illustrates the effect of a one standard deviation increase in geopolitical risk in each index respectively on CPIF inflation at different monthly horizons.[5] Increased country-specific geopolitical risk for Sweden pushes up annual CPIF inflation, with the effect peaking after nine months when inflation rises by around 0.25 percentage points.[6] The effect of increased global geopolitical risk is more muted than the effect of Swedish geopolitical risk, and is not statistically significant. The fact that

[3] We use a structural VAR model (a so-called SVAR) estimated on monthly data from 2001 to August 2024, where the structural shocks are identified using a Cholesky decomposition, following Caldara et al. (2024). Appendix B describes the model in more detail.

[4] For the global geopolitical measure we alternate between the composite measure for risk, the measure that only considers threats and thereby increased likelihood of future events, and the measure only considering actual geopolitical occurrences.

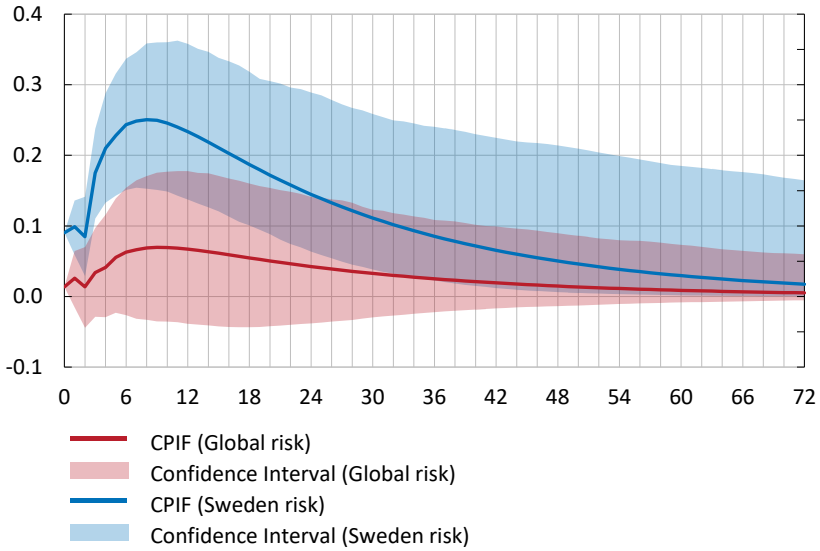
[5] To put the size of the shock in context, the risk in the Sweden-specific index increased by eight standard deviations in mid-2022.

[6] The result also holds when we include the krona exchange rate against the euro, the GDP indicator, the OMXS30 stock market index or the policy rate in the model, and when we exclude the largest events from the estimation.

global and Swedish risk are inflationary in Sweden is in line with earlier studies that have analysed the effects both internationally and in the euro area. As earlier studies show, the effect of global geopolitical risk can differ between geopolitical threats, which increase the risk of future adverse events, and when adverse events actually occur.[7] For Sweden, global geopolitical threats tend to increase inflation, while actual adverse global events have a weakly negative but very uncertain effect. The more muted effect of global geopolitical risk on inflation might be due to geopolitical threats and events affecting inflation in different directions.

Diagram 2. Effect on CPIF inflation of increased geopolitical risk

Percentage points



Note. The figure illustrates how an increase in geopolitical risk, corresponding to a one-standard-deviation rise in the global and Swedish indices, respectively, affects annual CPIF inflation at different monthly horizons. The shaded areas refer to 90 per cent confidence intervals.

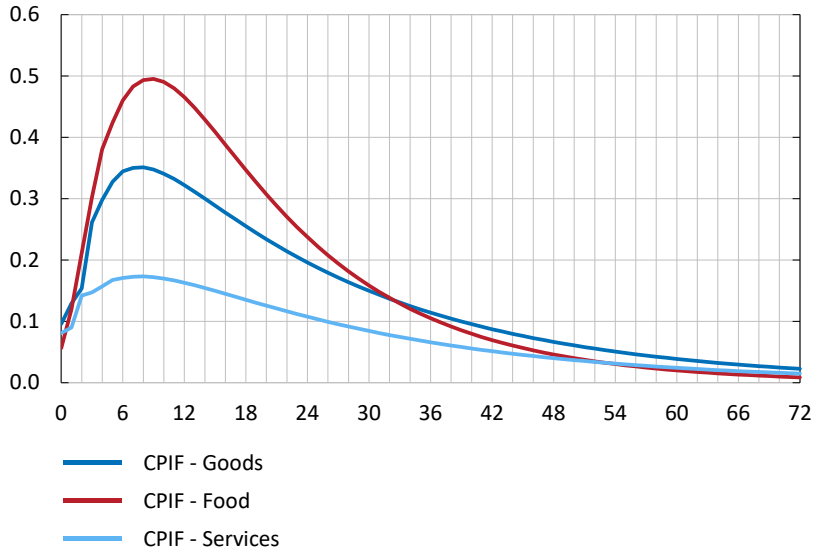
Diagram 3 shows how an increase in Sweden-specific geopolitical risk affects the CPIF sub-indices for goods, food and services. Food inflation reacts most strongly to the shock, with a maximum effect of around 0.5 percentage points, followed by goods at 0.35 percentage points and finally services at just under 0.2 percentage points.[8] The stronger pass-through of food and goods inflation may be due to the fact that these are more dependent on commodity prices and the exchange rate than services inflation. The effect on the sub-indices also suggests that the outcome for CPIF inflation cannot be explained solely by higher energy prices, but that domestic cost factors are also affected. On the contrary, Diagram 4 shows that the effect on energy prices is rather negative, but very short-lived.

[7] Caldara and Iacoviello (2022) create two separate global geopolitical risk indices for events that are "acts", such as an invasion, and "threats", where the risk of more comprehensive future acts increases.

[8] Again, the effect is greatest after about nine months.

Diagram 3. Effect of increased Sweden-specific geopolitical risk on the inflation rate in the CPIF sub-indices

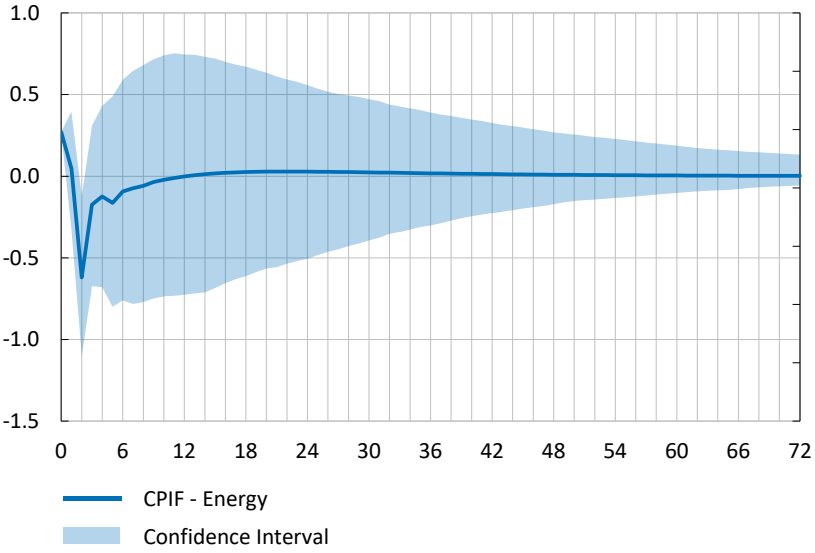
Percentage points



Note. The figure shows how increased country-specific geopolitical risk for Sweden corresponding to one standard deviation in the index affects the inflation rate for sub-groups of the CPIF at different monthly horizons.

Diagram 4. Effect of increased Sweden-specific geopolitical risk on the inflation rate in the CPIF sub-index for energy

Percentage points



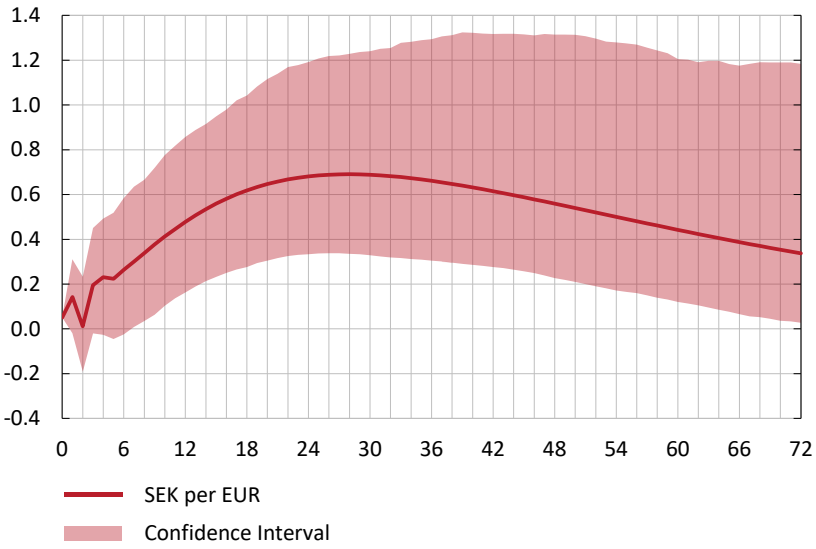
Note. The figure shows how increased country-specific geopolitical risk for Sweden corresponding to one standard deviation in the index affects the inflation rate of the energy sub-group at different monthly horizons. The shaded area refers to a 90 per cent confidence interval.

The krona weakens as risk increases, but the real effects are small

When we extend the model with the Swedish krona exchange rate against the euro, Diagram 5 shows that the krona depreciates significantly following an increase in the Sweden-specific risk level, with a maximum depreciation of around 0.7 per cent. The rate of depreciation peaks after eight to nine months, when the effect on inflation is greatest, suggesting that part of the inflation effect is due to changes in the exchange rate. Global risk tends not to systematically affect the exchange rate against the euro, which could be one more explanation for the difference in effect of global and Swedish risk on Swedish inflation.

Diagram 5. Effect of increased Sweden-specific geopolitical risk on the krona exchange rate against the euro

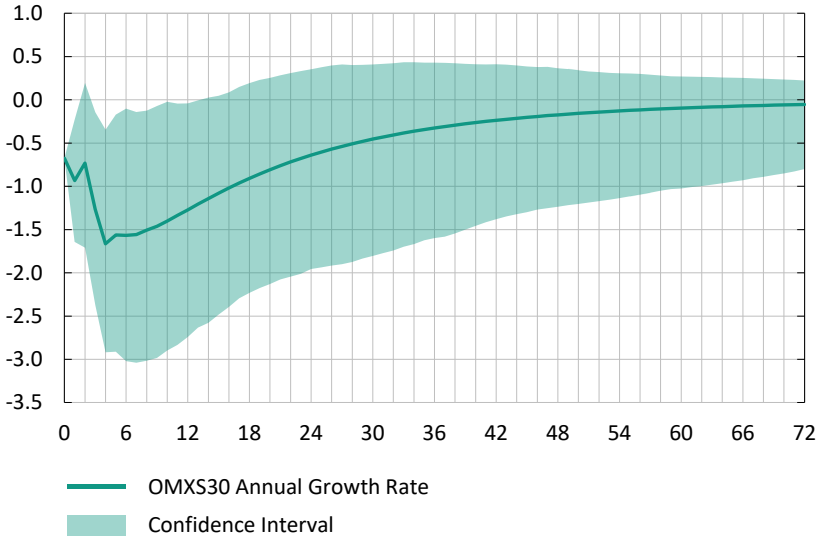
Per cent



Note. The figure shows how increased country-specific geopolitical risk for Sweden corresponding to one standard deviation in the index affects the exchange rate against the euro at different monthly horizons. The shaded area refers to a 90 per cent confidence interval.

Looking at the OMXS30 stock market index, shown in Diagram 6, a typical increase in Swedish geopolitical risk implies a 1.5 percentage point decrease in the annual growth rate of the OMXS30 six months after the increased risk has taken place.

Diagram 6. Effect of increased Sweden-specific geopolitical risk on the OMXS30
Percentage points

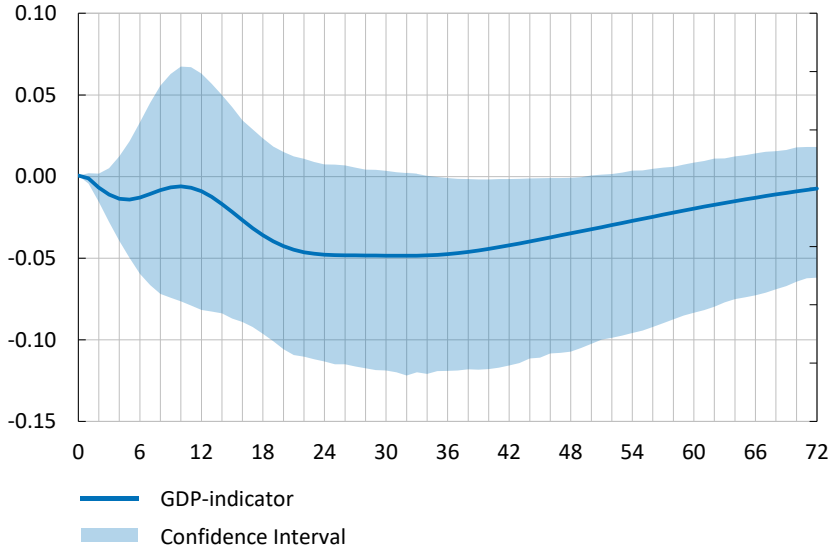


Note. The figure shows how increased country-specific geopolitical risk for Sweden corresponding to one standard deviation in the index affects the annual growth rate of the OMXS30 at different monthly horizons. The shaded area refers to a 90 per cent confidence interval.

One potential interpretation of the results for the exchange rate and the stock market index is that international investors react to heightened geopolitical risk in Sweden by reducing investments in Swedish financial assets and instead investing abroad, leading to a decline in the stock market and a weaker exchange rate.

Finally, Diagram 7 shows that the effects on the GDP indicator are limited. If anything, a slight negative effect occurs. The results for the GDP indicator suggest that the effects via the demand channel are relatively weak and that supply effects dominate, which is in line with previous research (Caldara et al., 2024).

Diagram 7. Effect of increased Sweden-specific geopolitical risk on the GDP indicator
Standard deviations from long-term trend



Note. The figure shows how increased country-specific geopolitical risk for Sweden corresponding to one standard deviation in the index affects the GDP indicator at different monthly horizons. The shaded area refers to a 90 per cent confidence interval.

Conclusion – increased geopolitical risk specific to Sweden contributes to inflationary pressures

In this Economic Commentary, we have examined how geopolitical risk affects Swedish consumer prices, measured in terms of the CPIF and its sub-groups, and other aspects of the economy. The analysis shows that increased geopolitical risk specific to Sweden contributes to higher inflationary pressures. The effects of global geopolitical risk are less clear. The disparity may be due to a difference in effect between an increased risk of future adverse geopolitical events and the actual occurrence of such events.

To some extent, the effect on inflation appears to be driven by the weakening of the krona exchange rate. The depreciation of the krona, together with a fall in the OMXS30 stock index, also points to an outflow of capital from Swedish financial markets due to increased Swedish geopolitical risk. The GDP indicator reacts somewhat negatively but very weakly, which, together with inflationary pressures, suggests that the supply effects of increased geopolitical risk dominate over demand effects. This is in line with previous research.

It is unclear how recent geopolitical developments will affect Swedish inflation. Potentially, an increased risk of future adverse events could be inflationary, in line with how global threats generally affect Sweden. However, previous research also shows clear differences from case to case, making it difficult to draw a clear conclusion a priori.

APPENDIX A – Geopolitical events

Table 1 shows the largest month-on-month increases in the Sweden-specific geopolitical index. The index peaked just after Sweden's NATO application in May 2022. The validity of the index is strengthened by the fact that it shows higher values for Sweden-specific events, such as the NATO process or escalations following the Quran burnings in 2023, than for example the terrorist attack of 11 September 2001.

Table 1. Geopolitical events linked to Sweden

Date	Description	Value of the index	Report in the media
May 2022	Sweden applies for NATO membership.	1,253	Link
July 2023	Escalations after Quran burning. President of Turkey Erdogan says yes to Sweden's NATO application. Much discussion before the decision.	694	Link 1 Link 2 Link 3 Link 4
December 2010	Stockholm bombing.	414	Link
September 2001	Terrorist attacks in the United States.	350	Link

Note. The table shows the most significant increases measured by the Sweden-specific geopolitical risk index. The media reports are a small sample of all the articles on which the measure is based.

Source: Associated Press, The New York Times and The Washington Post.

APPENDIX B – The empirical model

Our empirical model is a structural VAR model, which largely follows Caldara et al. (2024). We use monthly data from January 2001 to August 2024 and estimate the model with three lags. Table 2 shows the data sources used in the model.

We first estimate a model that includes the index for global geopolitical risk, Swedish geopolitical risk and a measure of inflation, either annual CPIF inflation or annual inflation for one of the sub-groups goods, services, food or energy. We then extend the model with another variable, and the extended model includes the index for global geopolitical risk, Swedish geopolitical risk, annual CPIF inflation and either the krona exchange rate against the euro, Statistics Sweden's GDP indicator, annual percentage growth in the OMXS30 or the Riksbank's policy rate.

The model is specified as

$$D_0 y_t = \mathrm{C} + \sum_{l=1}^{3} D_l y_{t-l} + \eta_t,$$

where $\eta_t \sim \mathcal{N}(0, \Sigma_\eta)$ and Σ_η is a diagonal matrix. To identify the structural shocks, we impose restrictions on the coefficients in D_0, which determine the contemporaneous relationship between the variables. In accordance with Caldara et al. (2024), we assume that geopolitical risk is not affected by other variables in the same period. In contrast, the inflation measure is affected by geopolitical risk in the same period. Global risk is not affected by Sweden-specific risk, but Sweden-specific risk can be affected by global risk in the same period.

In the extended model, the same relationship between the inflation measure and geopolitical risk holds. The restrictions on the fourth variable mean that it is affected by both the inflation measure and geopolitical risk within the same period. The fourth variable is either the krona exchange rate against the euro, the GDP indicator, annual percentage growth in the OMXS30 or the Riksbank's policy rate. At the same time, neither the inflation measure nor geopolitical risk is assumed to be affected by the fourth variable within the same period.

Table 2. Data sources

Variable	Source
Geopolitical risk index	Caldara and Iacoviello (2022) link
CPIF inflation	Statistics Sweden link
Inflation CPIF sub-index goods	Statistics Sweden and the Riksbank link
Inflation CPIF sub-index services	Statistics Sweden and the Riksbank link
Inflation CPIF sub-index food	Statistics Sweden and the Riksbank link
Inflation CPIF sub-index energy	Statistics Sweden and the Riksbank link
SEK per EUR spot rate	Macrobond
GDP indicator	Statistics Sweden link
OMXS30	Macrobond
The Riksbank policy rate	The Riksbank link

References

Anttonen, Jetro, and Markku Lehmus (2024), “Impact of geopolitical surprises on euro area inflation varies case by case”, Bulletin, Bank of Finland, November 2024.

Brignone, Davide, Luca Gambetti and Martino Ricci (2025), “Geopolitical risk shocks: when the size matters”, Staff Working Paper No. 1118, Bank of England.

Caldara, Dario, and Matteo Iacoviello (2022), “Measuring geopolitical risk”, *American Economic Review*, 112 (4), pp. 1194-1225.

Caldara, Dario, Sarah Conlisk, Matteo Iacoviello and Maddie Penn (2024), “Do geopolitical risks raise or lower inflation?”, unpublished manuscript, Federal Reserve Board.

Dieckelmann, Daniel, Christoph Kaufmann, Chloe Larkou, Peter McQuade, Caterina Negri, Cosimo Pancaro and Denise Rößler (2024), “Turbulent times: geopolitical risk and its impact on euro area financial stability”, *Financial Stability Review*, ECB, May 2024.

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