# Economic Policy Uncertainty in Ireland

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**Importance:**

- Public information can have significant effects on the macroeconomy.
- Policymakers should know unintended consequences of political, fiscal, and monetary indecision.
- Uncertainty shocks are followed by changes in the stock market, interest rate, employment, and industrial production.

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**Related Work:**

- Knight (1921) – perception and reaction to uncertainty.
- Baker, Bloom, and Davis (2015) – empirical framework for textual analysis.

**Innovations:**

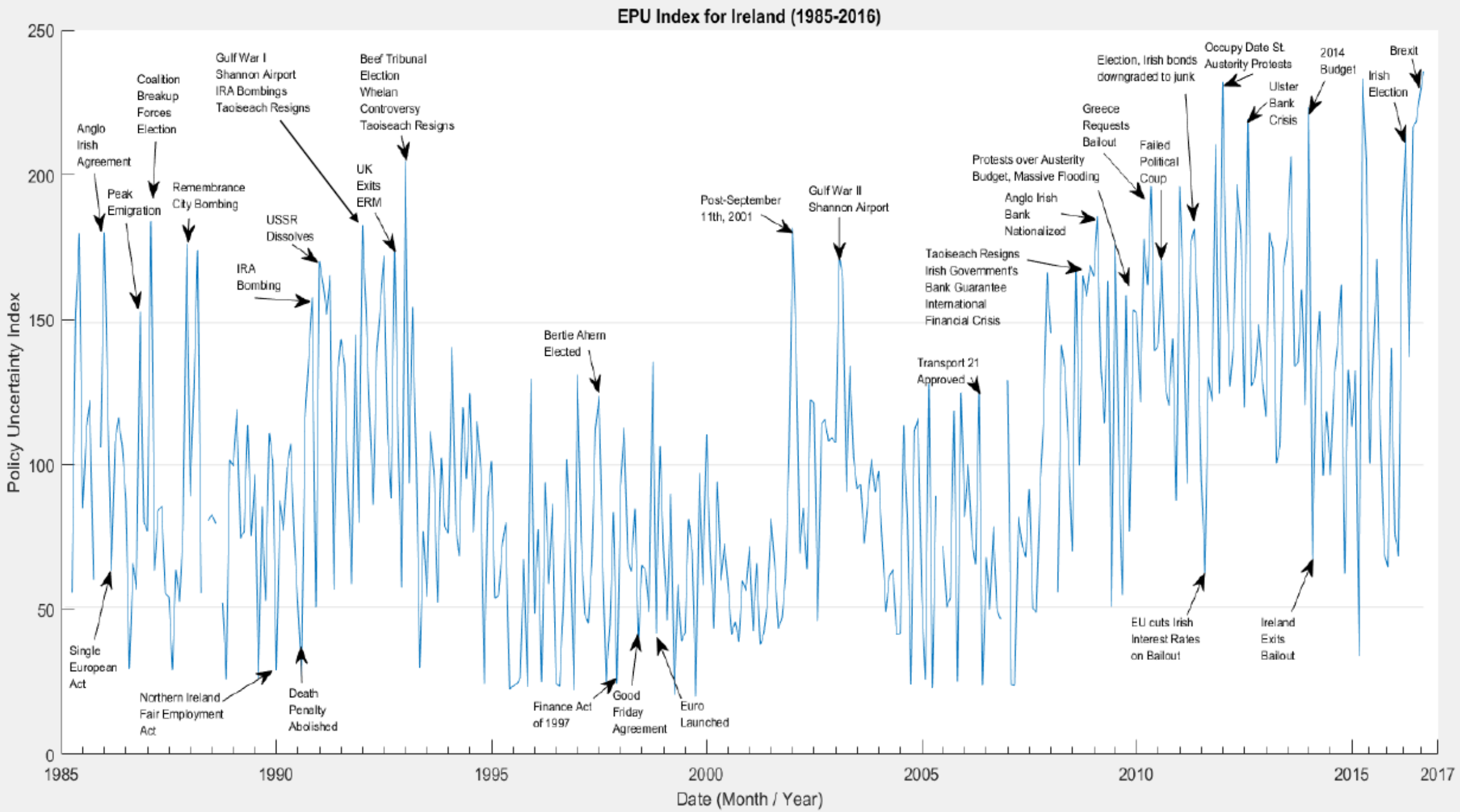
1. Create crucial measure of economic policy uncertainty unique to Ireland.
2. Develop enhanced web-scraping method using C# and Microsoft SQL Server.
3. Analyze significance of periods containing low uncertainty.

**Further Contributions:**

- Capture both high and low economic uncertainty events in Ireland (1985-2016).
- Irish Stock Exchange (ISEQ) demonstrates strictly negative behavior in response to an EPU shock.
- Considerable correlation with United States, United Kingdom, European, and Spanish EPU indices.

**Constructing the Economic Policy Uncertainty (EPU) Index:**

1. Collect data from The Irish Times published between 1985-2016.
2. Select articles must contain keywords about the economy, uncertainty, and policy.
3. Standardize data to unit standard deviation; normalize to mean of 100.
4. Match behavior in EPU to specific events both domestic and international.


EPU Index for Ireland (1985-2016)
Policy Uncertainty Index
Date (Month / Year)
250
200
150
100
50
0
1985
1990
1995
2000
2005
2010
2015
2017
Anglo Irish Agreement
Coalition Breakup Forces Election
Peak Emigration
Remembrance City Bombing
Gulf War I Shannon Airport IRA Bombings Taoiseach Resigns
USSR Dissolves
IRA Bombing
Beef Tribunal Election Whelan Controversy Taoiseach Resigns
UK Exits ERM
Single European Act
Northern Ireland Fair Employment Act
Death Penalty Abolished
Bertie Ahern Elected
Finance Act of 1997
Good Friday Agreement
Euro Launched
Post-September 11th, 2001
Gulf War II Shannon Airport
Taoiseach Resigns Irish Government's Bank Guarantee International Financial Crisis
Transport 21 Approved
Protests over Austerity Budget, Massive Flooding
Anglo Irish Bank Nationalized
Greece Requests Bailout
Failed Political Coup
Election, Irish bonds downgraded to junk
Occupy Dame St. Austerity Protests
Ulster Bank Crisis
EU cuts Irish Interest Rates on Bailout
Ireland Exits Bailout
2014 Budget
Irish Election
Brexit

## Vector Auto-regression (VAR):

$$\mathbf{A}x_t = \mathbf{B}_1 x_{t-1} + \mathbf{B}_2 x_{t-2} + \ldots + \mathbf{B}_p x_{t-p} + \Gamma \mathbf{Z}_t + \epsilon_t$$

- **A** and **B** are matrices of coefficients.
- $\epsilon_t$ is a vector of unobservable zero mean white noise processes.
- $\Gamma \mathbf{Z}_t$ gives the deterministic terms.

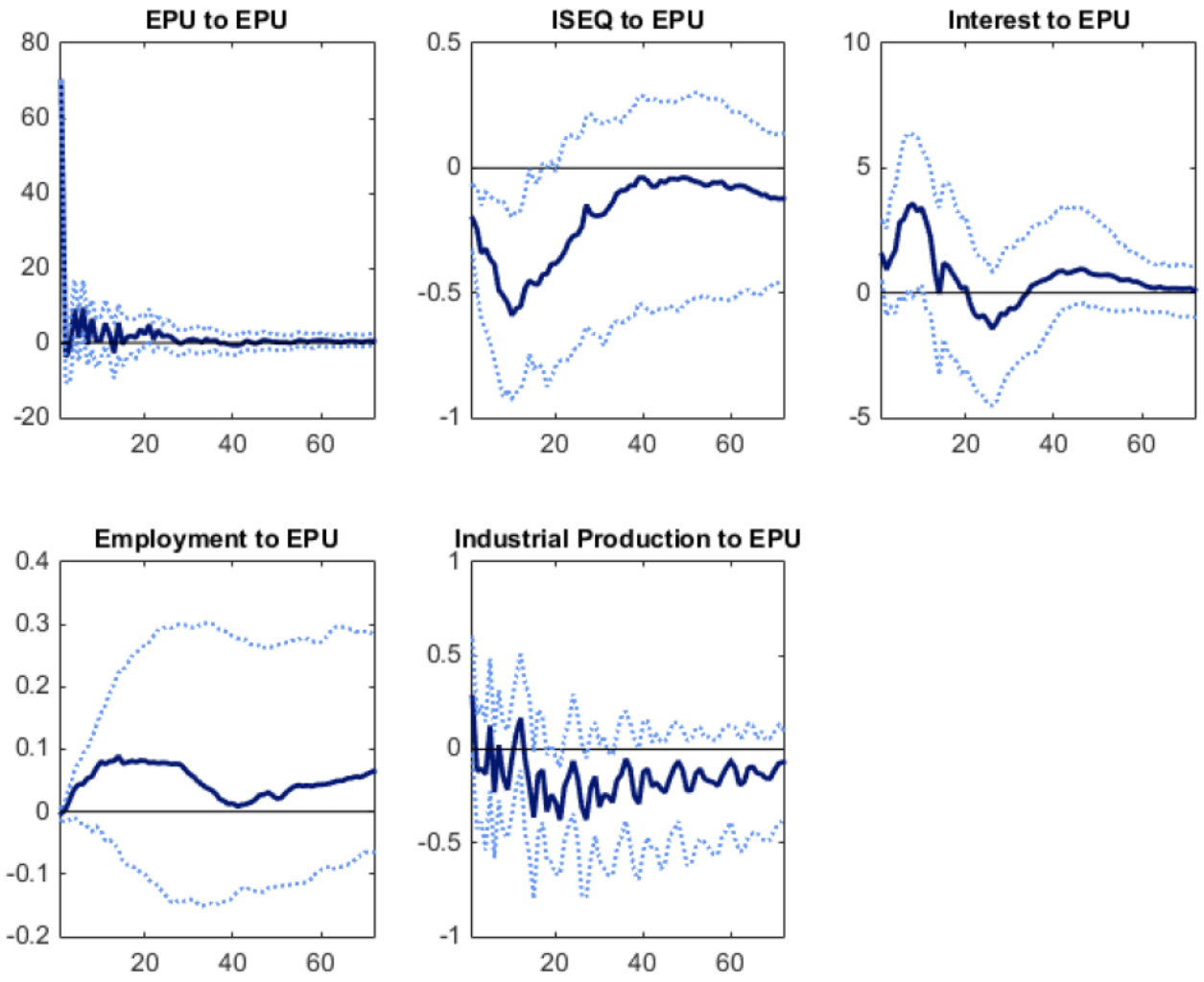



Figure 2: Impulse Response Functions

# Conclusion

**Remarks**

- ✓ Results broadly consistent with economic theory.
- ✓ Demonstrates influence of public uncertainty on the economy.
- ✓ Reinforces integrity of textual analysis as macroeconometric tool.

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## Future Study

- Incorporate more newspapers into the EPU index.
- House of Oireachtas' session transcripts and Irish Central Bank's Quarterly Bulletin.
- Generate implied volatility index for ISEQ.
- Substitute daily data for monthly data.

# Search Terms

- Economy: "economic," "economics," "economy."
- Uncertainty: "uncertain," "uncertainty."
- Policy: "regulation," "legislation," "Dáil," "deficit," "government," "central bank," or "Taoiseach."

# VAR Data

- ISEQ index downloaded from CSO Ireland.
- Interest rate is ECB's marginal lending rate obtained from the Statistical Data Warehouse.
- Employment is seasonally adjusted, total number of persons on live register from CSO Ireland.
- Industrial Production was sourced from the IMF's International Financial Statistics database.

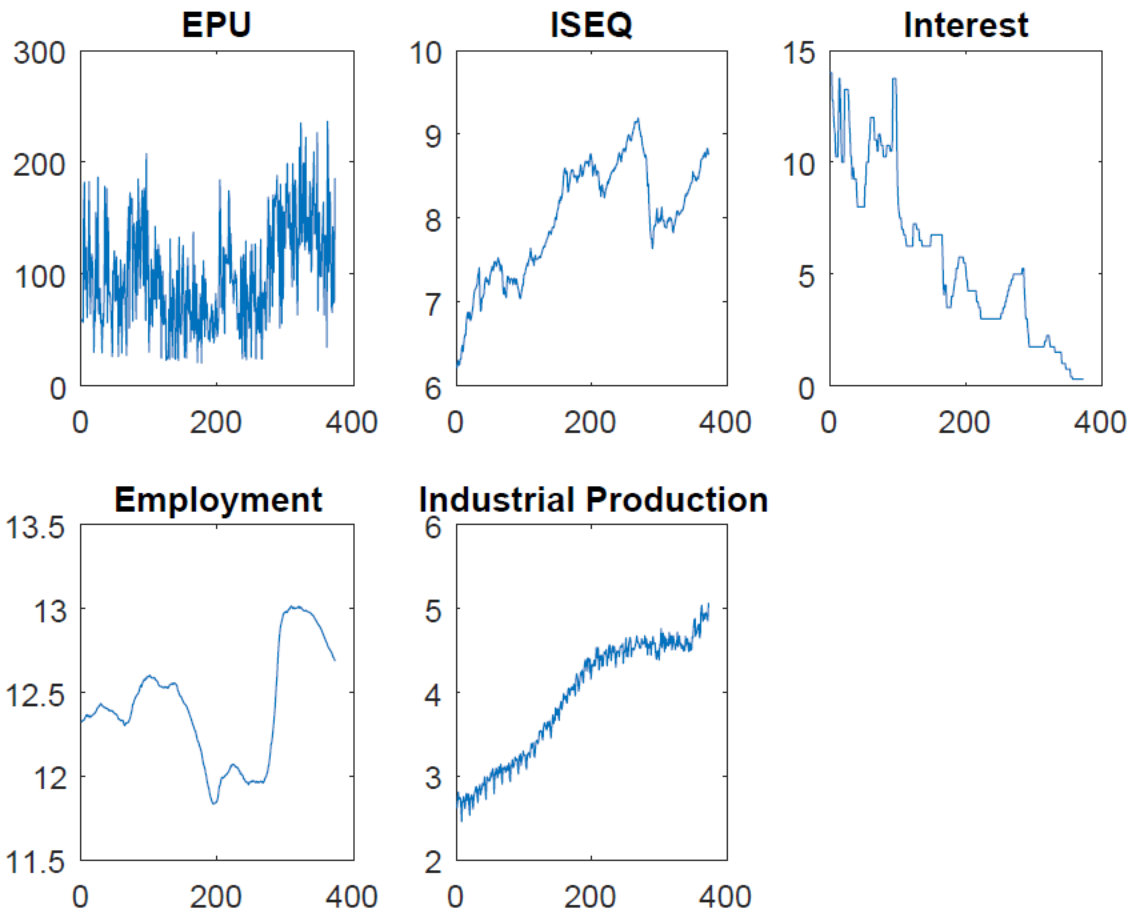


Figure 3: Data Used in VAR

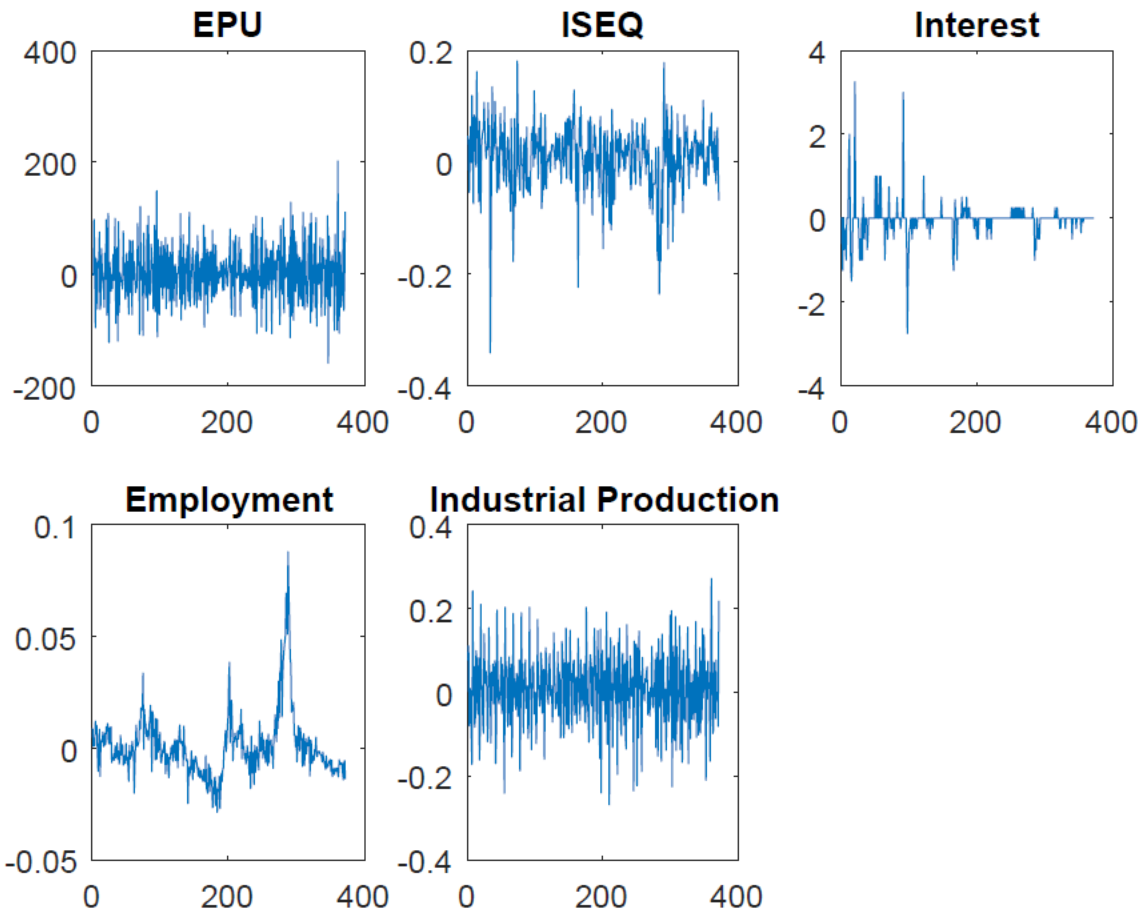


Figure 4: Differences of Data Used in VAR

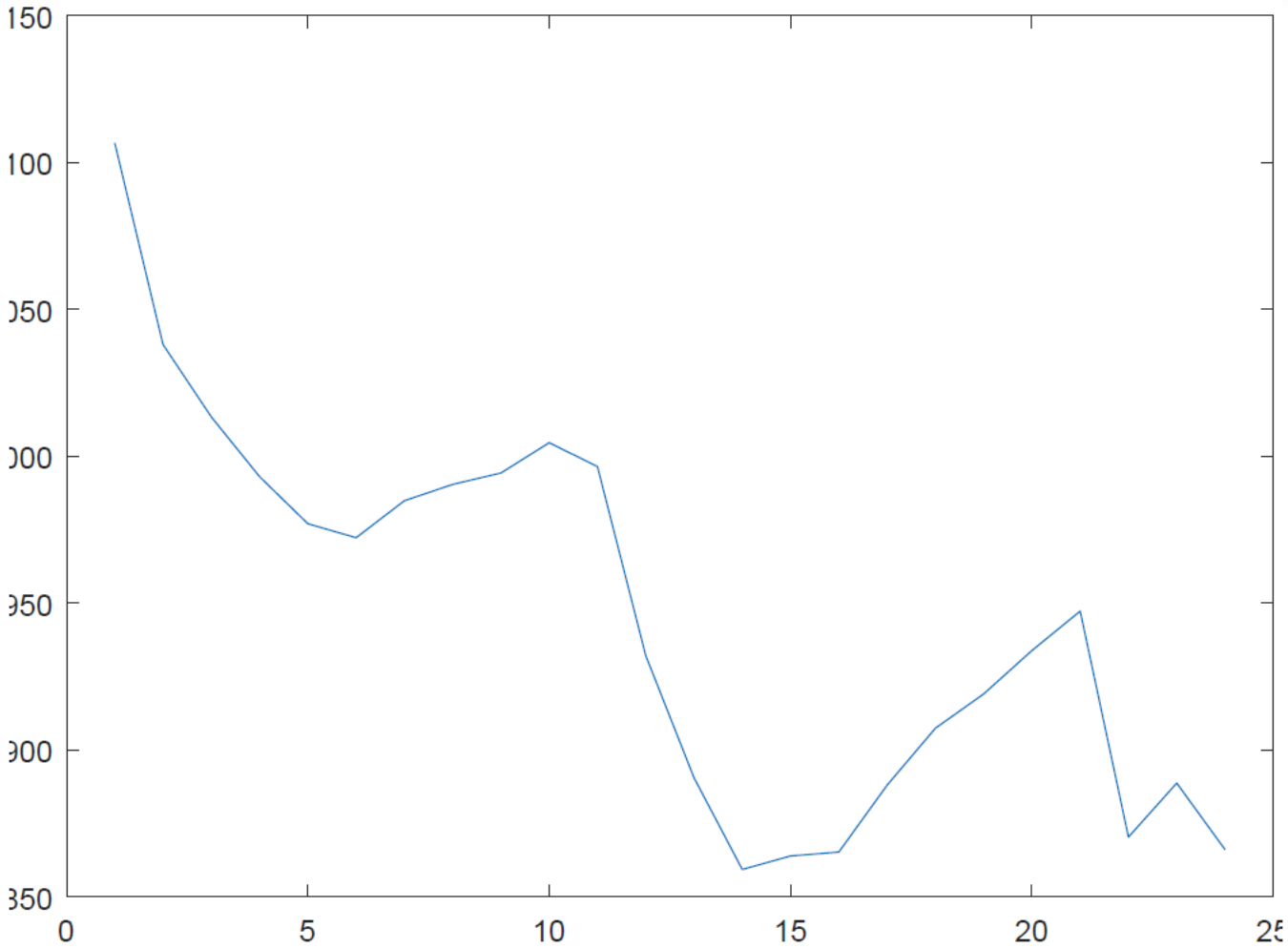


Figure 5: AIC for Lag Lengths

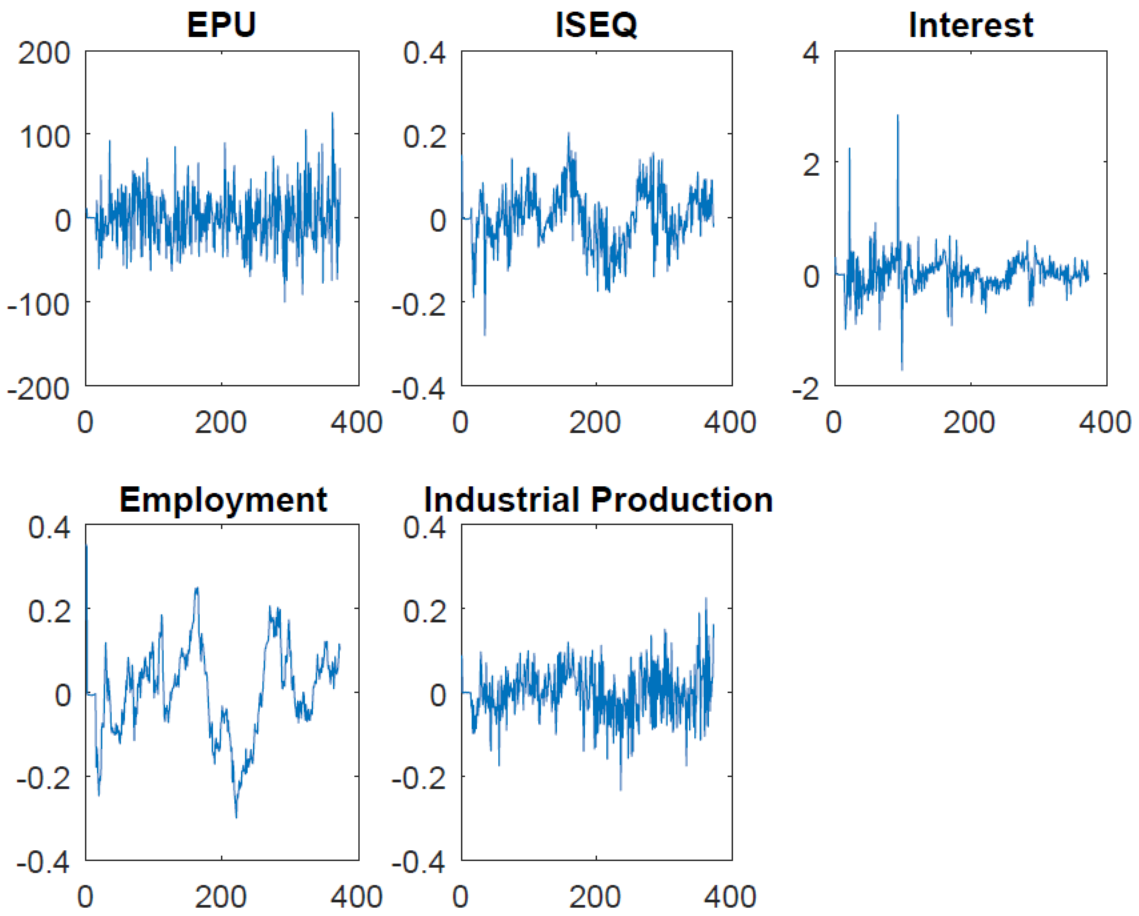


Figure 6: VAR Residuals

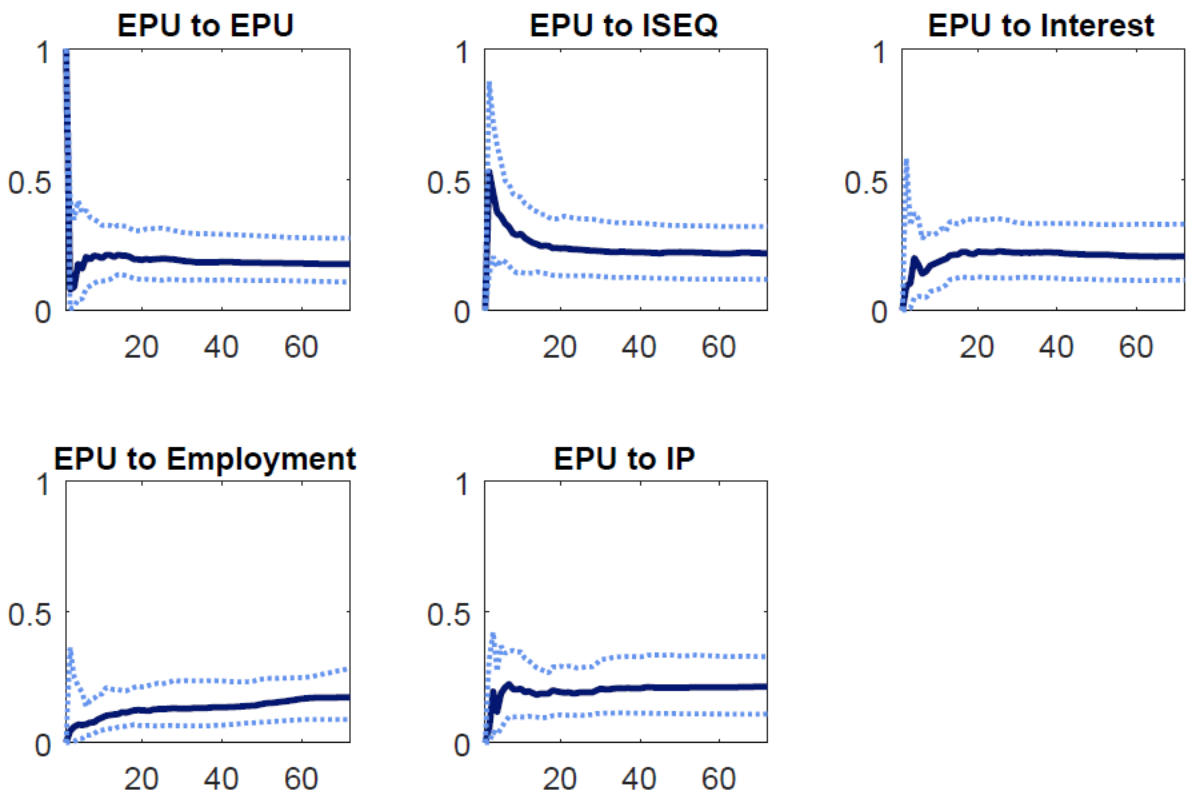


Figure 7: Forecast Error Variance Decomposition

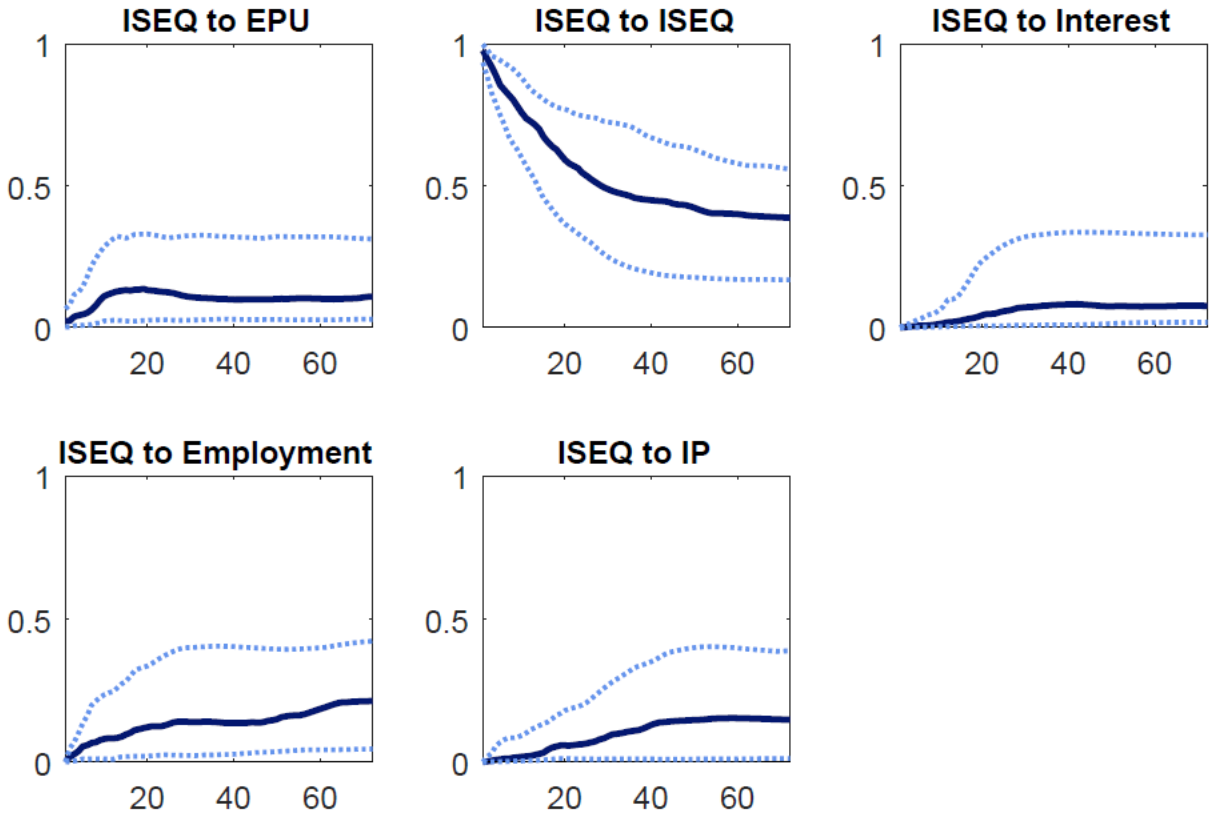


Figure 8: Forecast Error Variance Decomposition

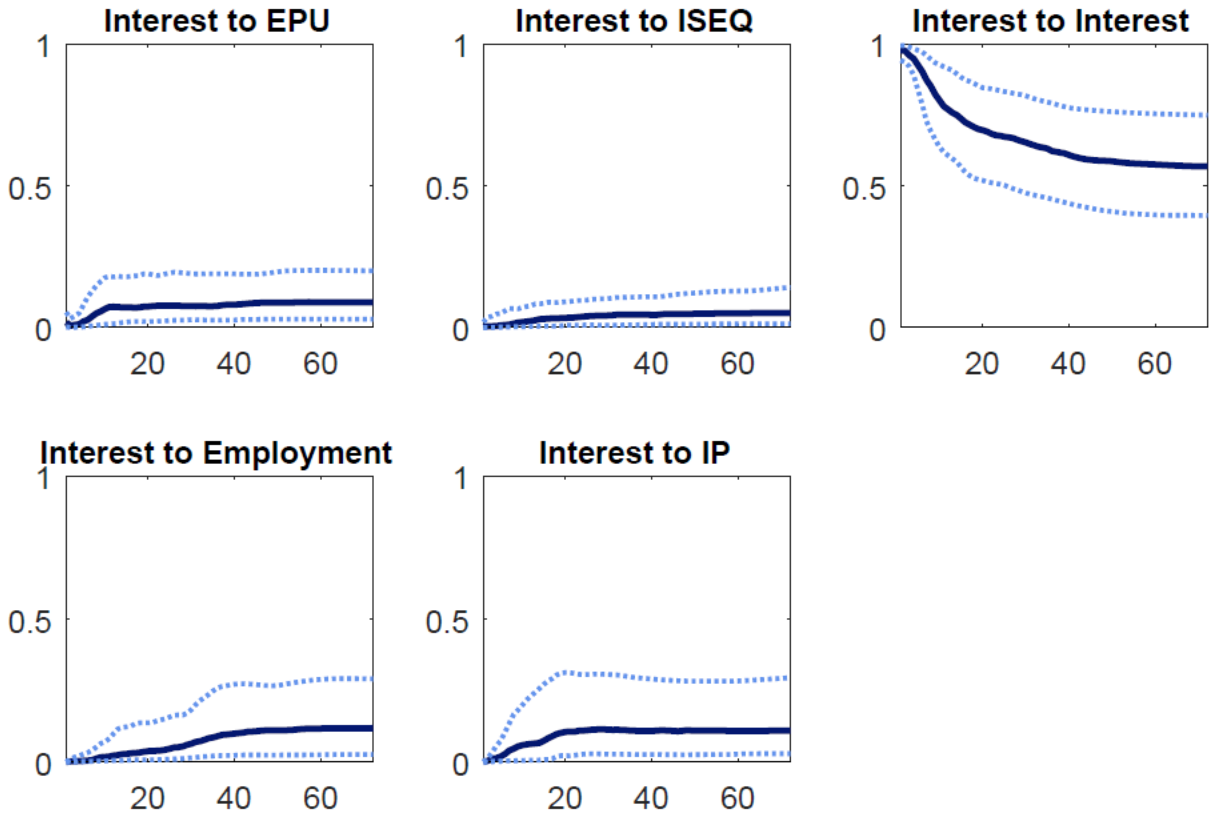


Figure 9: Forecast Error Variance Decomposition

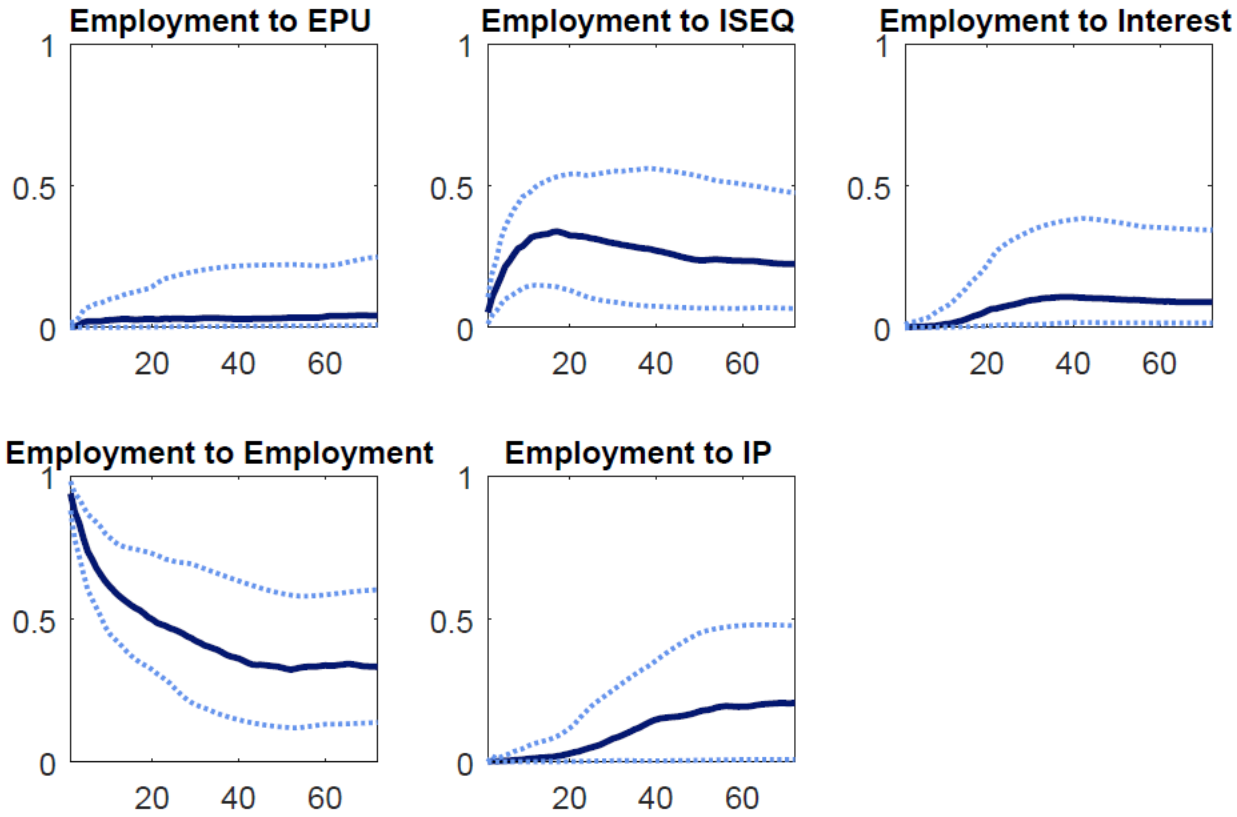


Figure 10: Forecast Error Variance Decomposition

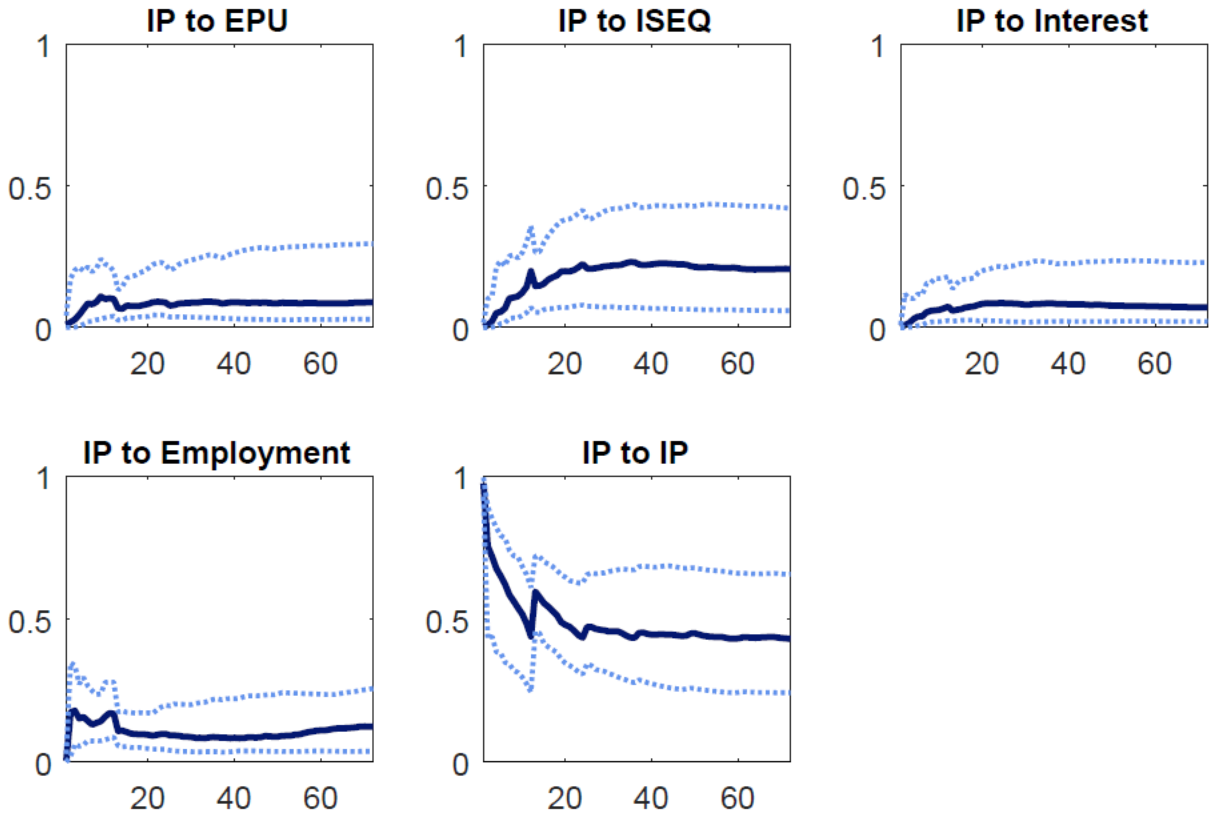


Figure 11: Forecast Error Variance Decomposition