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## **Advanced Macroeconomic Analysis II**

Summer 2024

### **Time and venue**

Wednesdays, 8-12 am, Karl-Popper Room at DIW Berlin

### **Evaluation**

Grading in each part will be based on class participation (50%) and a term paper on an original idea based on the methods we have studied in class (50%). A student must pass each part of the class, i.e. achieve a minimum of 50% of the points. The term paper can be written on topics from either part of the course, but the distribution of topics must be balanced.

### **Part 1: Monetary & fiscal policy (Alexander Kriwoluzky)**

#### **Overview**

In recent years, monetary and fiscal policy have been at the centre of most political debates. The 2019 pandemic prompted central banks to cut their interest rates quickly, drawing on the lessons of the Great Financial Crisis. At the same time, many governments launched huge stimulus packages, leaving many economies with high levels of public debt. In times of low interest rates, high public debt is of little concern to (fiscal) policymakers.

The invasion of Ukraine led to a surge in energy prices and thus inflation. Central banks responded by raising interest rates again to fight inflation. This action could have consequences for fiscal policy - and, as the course will show, for monetary policy as well.

In this course, we begin by discussing the reasons why monetary and fiscal policymakers have reacted as they have in recent years. To this end, we will identify monetary and fiscal policy shocks and discuss their effects and transmission in the economy. Finally, we will show how they are linked and how they interact.

#### **Introduction (Week 1)**

Lecture 1: A small sample of macro-history

- Required reading: Nakamura and Steinsson (2018)
- Further readings: Friedman and Schwartz (1963); Goodfriend and King (2005); Mussa (1986); Antolín-Díaz and Rubio-Ramírez (2018)

Exercise 1: Introduction to MATLAB

### **Monetary policy (Week 2 and 3)**

Lecture 2: Definition and effects of monetary policy shocks

- Narrative monetary policy shocks: Romer and Romer (2004); Coibion (2012); Ettmeier and Kriwoluzky (2019)
- High-frequency shocks: Gertler and Karadi (2015); Altavilla et al. (2019); Swanson (2021)
- Central bank information shocks: Jarociński and Karadi (2020); Miranda-Agrippino and Ricco (2020); Bauer and Swanson (2023)

Exercise 2: Monetary policy shocks and local projections

- Narrative monetary shocks in local projections: Ramey (2016); Jordà (2005)

Lecture 3: Transmission channels of monetary policy

- Interest-rate channel in New-Keynesian models: Walsh (2010); Galí (2015)
- Bank-lending channel: Gertler and Karadi (2011); Altavilla et al. (2020)
- Redistribution channel: McKay and Wolf (2023); Amberg et al. (2022); Kaplan et al. (2018); Coibion et al. (2017)
- Energy-price channel: Ider et al. (2023)

Exercise 3: Proxy-SVAR model with monetary policy and energy price shocks

- Proxy-SVAR models: Mertens and Ravn (2013)
- Energy price shocks: Känzig (2021)

## **Fiscal policy shocks (Week 4 and 5)**

Lecture 4: Fiscal policy shocks and its multiplier

- Timing restrictions on fiscal policy shocks: Blanchard and Perotti (2002); Auerbach and Gorodnichenko (2012)
- Pre-announcement and Non-invertibility of a VAR model: Ramey (2011); Kriwoluzky (2012)
- Narrative fiscal shocks on proxy VAR models: Ramey (2011); Born et al. (2020)
- State-dependent fiscal multiplier: Auerbach and Gorodnichenko (2012, 2014); Ramey and Zubairy (2018); Barnichon et al. (2022)
- Regional Multiplier: Nakamura and Steinsson (2014); Chodorow-Reich (2019)

Exercise 4: comparison of Proxy-VAR and local projections

- Comparison of both methods: Li et al. (2021); Plagborg-Møller and Wolf (2021)

Lecture 5: Transmission channels of fiscal policy

- Transmission channels of fiscal policy: King and Baxter (1993); Galí et al. (2007); Auclert et al. (2018)
- Fiscal policy and energy crisis: Bayer et al. (2023)

Exercise 5: Introduction to Dynare

- Find out more [by clicking here](#)

## **Interaction of monetary and fiscal policy (Week 6 and 7)**

Lecture 6 (and 7): Fiscal theory of the price level (FTPL)

- Introduction of FTPL: Leeper (1991, 2011); Leeper and Leith (2016)
- Empirical evidence: Kliem et al. (2016); Ettmeier and Kriwoluzky (2020); Bianchi and Ilut (2017)

Exercise 6: New Keynesian model with monetary-fiscal interaction in Dynare

## **Part 2: Labor, frictions & micro2macro (Britta Gehrke, week 8-14)**

### **Description**

The objective of this course is to enable Master and PhD students to think about labor markets and unemployment from a macroeconomic perspective. Given that roughly two thirds of GDP come in the form of wage income, that most households live of labor income, and that finding workers becomes increasingly difficult for firms, labor markets are of first order importance for macroeconomic outcomes. Labor markets are a key source of heterogeneity because they determine a household's employment history, income and wealth. As a result, they interact with the conduct of fiscal and monetary policy.

First, this course aims to introduce students to the workhorse model in modern macro/labor: search frictions that generate unemployment as an equilibrium outcome. We will also discuss wage bargaining. These tools and methods are also applicable to other areas, such as financial markets. Second, the course will introduce students to current research that combines quantitative macroeconomic models with microeconomic data. Microeconomic data on workers and firms have become increasingly important in macro/labor, but also far beyond that. Students will present and discuss selected papers from the (preliminary) list below.

### **Overview (preliminary)**

1. Introduction and background
2. The basic search model
3. Equilibrium search
  - (a) Random and directed search
  - (b) Reallocation
  - (c) Heterogeneity and sorting
4. Incorporating labor market frictions into D(S)GE models
  - (a) Representative agents
  - (b) Heterogeneous agents
5. Microeconomic data for macroeconomic questions  
Papers for student presentations and discussions/referee reports:
  - Unemployment and the business cycle: Gertler et al. (2020)

- Heterogeneous effects of macro shocks and risk: Guvenen et al. (2017), Broer et al. (2023), Graves (2020)
- Labor market policy in recessions: Kekre (2023), Gehrke and Dengler (2022)
- Workers' job search behavior: Faberman et al. (2022)
- Worker beliefs and expectations: Jäger et al. (2024)
- Firms' search and recruitment: Carrillo-Tudela et al. (2023)
- Life-cycle earning dynamics: Jung and Kuhn (2019), Guvenen et al. (2021)
- Firm dynamics and labor reallocation: Bilal et al. (2022)
- Labor share developments: Kehrig and Vincent (2021)

## Readings

- Altavilla, C., Brugnolini, L., Gürkaynak, R. S., Motto, R., and Ragusa, G. (2019). Measuring euro area monetary policy. *Journal of Monetary Economics*.
- Altavilla, C., Canova, F., and Ciccarelli, M. (2020). Mending the broken link: Heterogeneous bank lending rates and monetary policy pass-through. *Journal of Monetary Economics*, 110.
- Amberg, N., Jansson, T., Klein, M., and Picco, A. R. (2022). Five facts about the distributional income effects of monetary policy shocks. *American Economic Review: Insights*, 4(3):289–304.
- Antolín-Díaz, J. and Rubio-Ramírez, J. F. (2018). Narrative sign restrictions for SVARs. *American Economic Review*.
- Auclert, A., Rognlie, M., and Straub, L. (2018). The Intertemporal Keynesian Cross. *National Bureau of Economic Research*.
- Auerbach, A. J. and Gorodnichenko, Y. (2012). Measuring the output responses to fiscal policy. *American Economic Journal: Economic Policy*.
- Auerbach, A. J. and Gorodnichenko, Y. (2014). Fiscal Multipliers in Recession and Expansion. In *Fiscal Policy after the Financial Crisis*.
- Barnichon, R., Debortoli, D., and Matthes, C. (2022). Understanding the Size of the Government Spending Multiplier: It's in the Sign [Downward Wage Rigidity and Business Cycle Asymmetries]. *Review of Economic Studies*, 89(1):87–117.

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- Bianchi, F. and Ilut, C. (2017). Monetary/Fiscal policy mix and agents’ beliefs. *Review of Economic Dynamics*, 26.
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- Broer, T., Kramer, J., and Mitman, K. (2023). The curious incidence of shocks along the income distribution. *Mimeo, Institute for International Economic Studies, Stockholm University*.
- Carrillo-Tudela, C., Gartner, H., and Kaas, L. (2023). Recruitment policies, job-filling rates and matching efficiency. *Journal of the European Economic Association*, pages 2413–2459.
- Chodorow-Reich, G. (2019). Geographic cross-sectional fiscal spending multipliers: What have we learned. *American Economic Journal: Microeconomics*, 11(2):1–34.
- Coibion, O. (2012). Are the effects of monetary policy shocks big or small? *American Economic Journal: Macroeconomics*, 4(2):1–32.
- Coibion, O., Gorodnichenko, Y., Kueng, L., and Silvia, J. (2017). Innocent Bystanders? Monetary policy and inequality.
- Den Haan, W. J., Rendahl, P., and Riegler, M. (2017). Unemployment (Fears) and Deflationary Spirals. *Journal of the European Economic Association*, 16(5):1281–1349.
- Ettmeier, S. and Kriwoluzky, A. (2019). Same, but different? Testing monetary policy shock measures. *Economics Letters*, 184.

- Ettmeier, S. and Kriwoluzky, A. (2020). Active, or Passive? Revisiting the Role of Fiscal Policy in the Great Inflation. Discussion Papers of DIW Berlin 1872, DIW Berlin, German Institute for Economic Research.
- Faberman, R. J., Mueller, A. I., Şahin, A., and Topa, G. (2022). Job search behavior among the employed and non-employed. *Econometrica*, 90(4):1743–1779.
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- Galí, J., López-Salido, J. D., and Vallés, J. (2007). Understanding the effects of government spending on consumption. *Journal of the European Economic Association*, 5(1).
- Galí, J. (2015). *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework and Its Applications Second edition*. Number 10495 in Economics Books. Princeton University Press.
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- Gertler, M., Huckfeldt, C., and Trigari, A. (2020). Unemployment fluctuations, match quality, and the wage cyclicalilty of new hires. *The Review of Economic Studies*, 87(4):1876–1914.
- Gertler, M. and Karadi, P. (2011). A model of unconventional monetary policy. *Journal of Monetary Economics*, 58(1):17–34.
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- Guvenen, F., Schulhofer-Wohl, S., Song, J., and Yogo, M. (2017). Worker betas: Five facts about systematic earnings risk. *American Economic Review*, 107(5):398–403.

- Ider, G., Kriwoluzky, A., Kurcz, F., and Schumann, B. (2023). The Energy-Price Channel of (European) Monetary Policy. Discussion Papers of DIW Berlin 2033, DIW Berlin, German Institute for Economic Research.
- Jäger, S., Roth, C., Roussille, N., and Schoefer, B. (2024). Worker beliefs about outside options. *Quarterly Journal of Economics*, forthcoming.
- Jarociński, M. and Karadi, P. (2020). Deconstructing monetary policy surprises-The role of information shocks. *American Economic Journal: Macroeconomics*, 12(2).
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- Jung, P. and Kuhn, M. (2019). Earnings losses and labor mobility over the life cycle. *Journal of the European Economic Association*, 17(3):678–724.
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- Kehrig, M. and Vincent, N. (2021). The micro-level anatomy of the labor share decline. *The Quarterly Journal of Economics*, 136(2):1031–1087.
- Kekre, R. (2023). Unemployment insurance in macroeconomic stabilization. *Review of Economic Studies*, 90(5):2439–2480.
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