

Konferenz der Keynes Gesellschaft 2024

# Wirtschaftspolitik in der Zeitenwende: Eine keynesianische Perspektive

## Decomposing current inflation rates in euro area by wage and profit inflation: The role of wage and price rules

Heike Joebges, Camille Logeay (both HTW Berlin)

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Work in progress



Hochschule für Technik  
und Wirtschaft Berlin

University of Applied Sciences

# High inflation in euro area countries since mid-2021



Motivation for our research!

# Outline

- Motivation and research focus
- Theoretical approaches
  - New-Keynesian and Post-Keynesian views
  - Wage and profit rules
- Empirics:
  - Data: GDP-Deflator vs. HICP
  - Wage and profit rules during 1999-2022
  - Extraordinary profit developments since 2020?
- Conclusion

# Research Focus

⇒ External shocks triggered temporarily higher price increases and provoked inflation

⇒ Research question:

**Is there evidence of “too high” wage or “too high” profit developments at the macro level that may provoke inflationary processes in euro area countries?**

**Can developments be explained by the business cycle?**

⇒ Method:

⇒ Inflation decomposition by unit wage and unit profit contributions

(Hahn 2019, 2021, Bobeica/Sokol 2019, Feigl/Zuckerstaetter 2013)

⇒ Comparison of unit wage and unit profit developments with wage and profit rules, respectively (Feigl/Zuckerstaetter 2013)

⇒ Comparison of unit profit since 2020 with out-of-sample forecasts

# Role of wages & profits in New-Keynesian approaches

- **Mark-up pricing** of companies on unit labor costs (introduced by Kalecki 1954)
- Demand & supply shocks as triggers for an inflationary process
- **Focus of traditional New-Keynesian** approaches (e.g. Clarida et al. 1999, Galí 2018 for extensions): effect of shocks on **expected inflation and on wage-setting**
- **Implicit consideration of conflicting claims** between workers and firms
- Conflicting claims/bargaining power enter as a parameter in NAIRU/Phillips-curve...
  - Phillips curve as an “intuitive yet powerful way of conveying the link between inflation and economic activity...” (Bobeica/Sokol 2019, ECB)
  - NAIRU “generates consistency between the target real wage of workers and the feasible real wage determined by labour productivity and the size of a firm’s mark-up”, “determined by the balance of power between workers and firms” (Snowdone/Vane 2005: 403)
- Few explicit considerations of conflicting claims, e.g. Carlin/Soskice (2009, 2015)

# Role of wages & profits in Post-Keynesian approaches:

- **Explicit consideration of conflicting claims** between workers and firms
- “inflation is always and everywhere a conflict phenomenon” (Hein 2023: title & p. 3).
- => Overview & extension for current situation by Hein (2023):
  - Model extension based on Rowthorn & Hein/Stockhammer\*,
  - in the tradition of Kalecki, Rowthorn & Dutt\*\*
  - inflation and distribution only constant at the consistent income claims-employment rate, otherwise changes in inflation and distribution, with destabilizing feedback effects on demand & employment
  - import price shock leads to stagflation and a lower wage share/higher profit share only if firms take the opportunity to increase mark-ups (Hein 2023: 25)
  - if the central bank increases interest rates to fight inflation, expected inflation will be lower, but the negative effect on employment and the wage share is higher (Hein 2023: 28)
- Modelling approaches differ by:
  - Capacity utilization (variable in the long-run or not), workers targets: real wages or wage share; form of profit mark-ups, role of inflation expectations for wage inflation, ...

\*alternative:  
Dutt, Blecker/  
Setterfield

\*\*alternative tradition:  
Keynes, Kaldor,  
Robinson and Marglin  
not fitting for current  
combination of rising  
inflation & rising profit  
shares (Hein 2023)

# Cyclicalities of profits over the business cycle

Theoretical considerations:

- Wages are more sticky than profits => cyclicalities of profits
- Amplifying effect from other cost: costs of overhead labor and intermediate goods next to capacity utilization (e.g. Lavoie 2021, 2023)
- Simplification: Differentiation of normal unit profits versus excess unit profits (“Marktlagengewinne” in Heine/Herr 2022/3)
- Narratives may matter (Okun 1975, Weber/Wasner 2023)

Empirics (selection):

- Cyclical development of profit mark-ups due to the sluggish behavior of wages: profits decrease in recession and increase in recovery (Martins/Scarpetta 1999 for the G5)
- Cyclical behavior of gross profits & operating surplus in the euro area (based on national accounting data, Hahn 2019, 2021)

# Wage rules

- Orientation for stability oriented wage developments on a macro level, to avoid central bank intervention in case of too-high wage increases
- Main idea: Nominal wages should follow inflation target of the central bank plus medium term productivity (average of past developments)
  - Proponents: Herr/Horn (2012); Horn/Logeay (2004); Herr/Horn (2012), Heine/Herr (2013, 2022, 2023); Feigl/Zuckerstätter (2013), Onaran/Stockhammer (2016)
  - Discussions about corrections for past changes in wage shares, gains/losses in international competitiveness, high unemployment rates... (not a focus here)
- **Can also be applied to profits!** (Joebges/Logeay 2018; Feigl/Zuckerstaetter 2013)



# Wage rules & profit rules for stable developments

## Inflation decomposition:

- **Actual:** 
$$\frac{\Delta P_t}{P_{t-1}} = \frac{\Delta ULC_t}{ULC_{t-1}} \cdot \frac{COE_{t-1}}{nGDP_{t-1}} + \frac{\Delta UProfit_t}{UProfit_{t-1}} \cdot \frac{GOS_{t-1}}{nGDP_{t-1}} + \frac{\Delta UTAX_t}{UTAX_{t-1}} \cdot \frac{TAX_{t-1}}{nGDP_{t-1}}$$

- Assuming constant shares  $\left(\frac{X_{i,\tau}}{nGDP_\tau}\right)$  and inflation in line with the ECB target of 2%, leads to:

- **Target:** 
$$2\% = 2\% \cdot \frac{COE}{nGDP} + 2\% \cdot \frac{GOS}{nGDP} + 2\% \cdot \frac{TAX}{nGDP}$$

Unit labor costs  
**ULC**

Unit profits  
**UP**

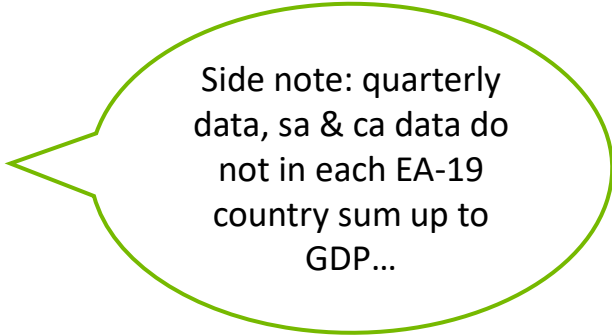
Unit taxes  
**UTax**

Side note: shifts in components can be neglected, empirically low effect

- Actual > Target : inflationary pressure from that component

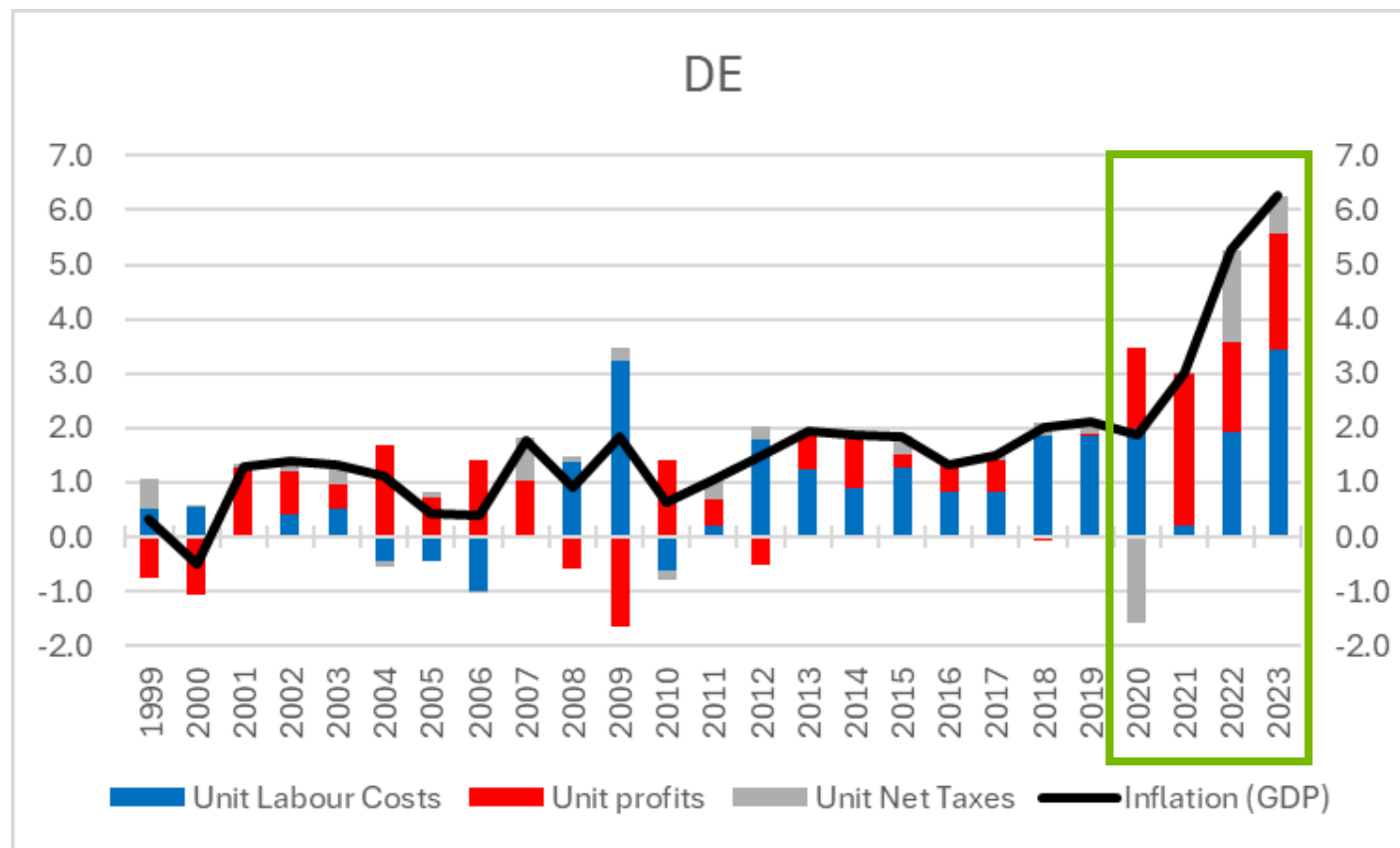
# Data

- Yearly data (1998-2022) from AMECO and Eurostat, EA-19, in national currencies, nca
- Profit data: **residual** in national accounting (!)
- GDP-Deflator
  - reflects domestic price dynamics (ECB 2006)
  - allows to analyze distributional aspects of inflation (ECB 2016, Feigl/Zuckerstaetter 2013)
  - disadvantage: available only with delay
- Why not HICP?
  - all domestic prices are relevant, not only those of consumption (ECB 2016)
  - import prices not relevant for domestic inflation (ECB 2016)
  - change in baskets weights may be relevant (Alcidi/Gros 2023)



Side note: quarterly data, sa & ca data do not in each EA-19 country sum up to GDP...

# Wage & profit rules applied to Germany



Deflation phase  
before GFC

Recovery phase  
after GFC

Inflation phase  
Polycrisis

Insgesamt			Steuern (netto)		
1999-2007	IST	7.4%	1999-2007	IST	1.4%
	SOLL	17.2%		SOLL	1.5%
2008-2013	IST	7.2%	2008-2013	IST	0.8%
	SOLL	10.4%		SOLL	1.0%
2014-2019	IST	9.1%	2014-2019	IST	0.9%
	SOLL	10.4%		SOLL	1.0%
2020	IST	1.9%	2020	IST	-1.6%
	SOLL	2.0%		SOLL	0.2%
2021	IST	3.0%	2021	IST	0.0%
	SOLL	2.0%		SOLL	0.2%
2022	IST	5.3%	2022	IST	1.7%
	SOLL	2.0%		SOLL	0.2%
2023	IST	6.3%	2023	IST	0.7%
	SOLL	2.0%		SOLL	0.2%

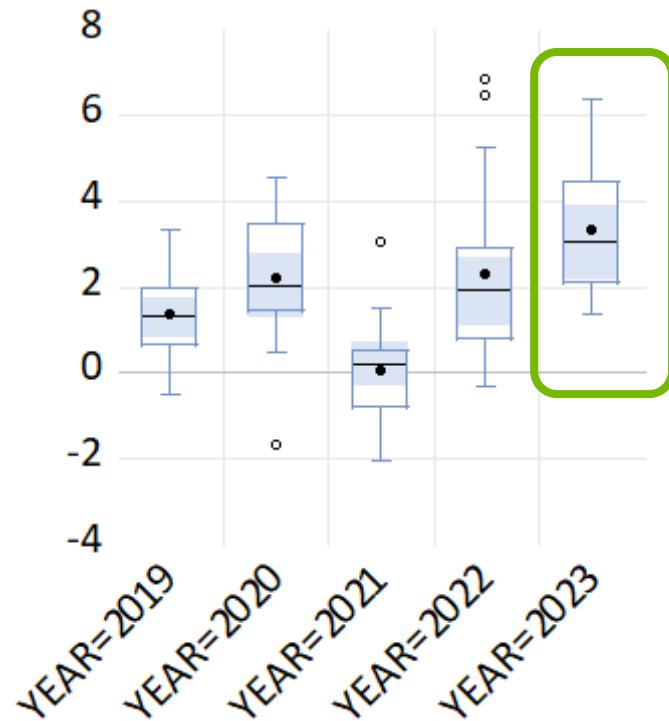
  

Löhne			Gewinne		
1999-2007	IST	-0.5%	1999-2007	IST	6.4%
	SOLL	8.5%		SOLL	6.5%
2008-2013	IST	5.9%	2008-2013	IST	0.3%
	SOLL	5.1%		SOLL	4.0%
2014-2019	IST	6.8%	2014-2019	IST	1.2%
	SOLL	5.3%		SOLL	3.9%
2020	IST	2.0%	2020	IST	1.5%
	SOLL	1.1%		SOLL	0.7%
2021	IST	0.2%	2021	IST	2.8%
	SOLL	1.1%		SOLL	0.8%
2022	IST	1.9%	2022	IST	1.6%
	SOLL	1.1%		SOLL	0.8%
2023	IST	3.4%	2023	IST	2.1%
	SOLL	1.0%		SOLL	0.8%

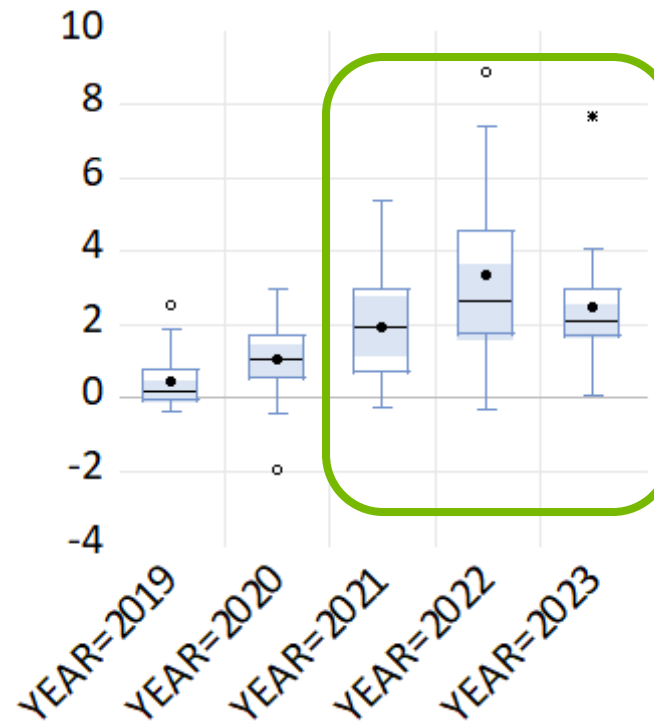
# Wage & profit contributions to (GDP-Deflator) inflation in EA19

inflationary pressure from unit profits is leading

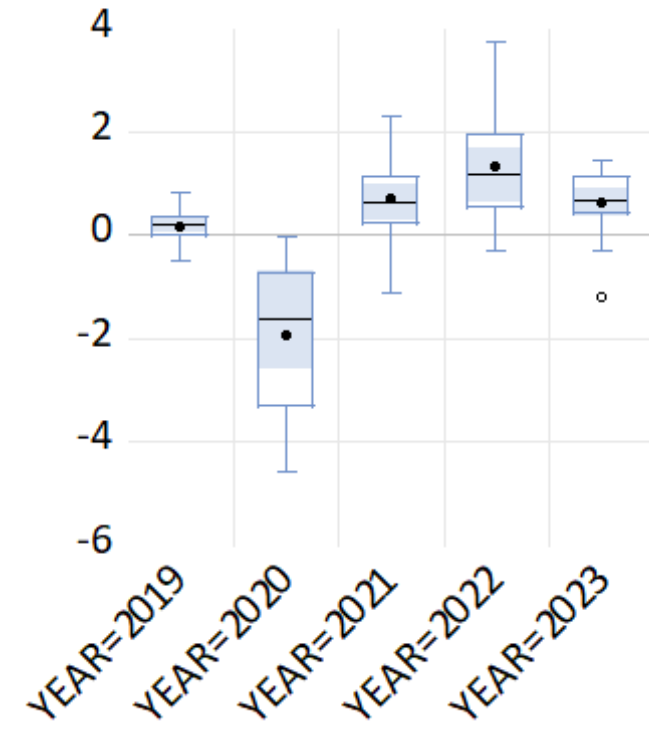
Contribution to inflation from Unit labour costs



Contribution to inflation from Unit profit



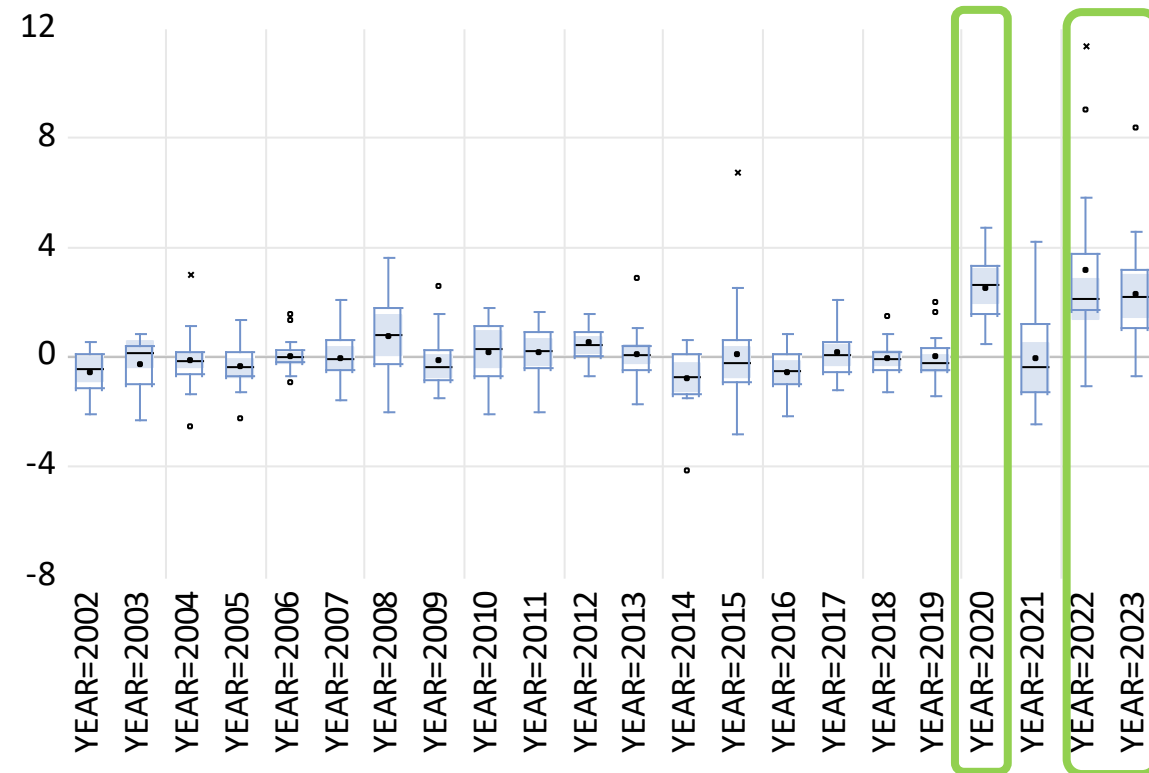
Contribution to inflation from Unit net taxes



# Have unit profits been extraordinary since 2020?

- Criterion: **forecast errors** from regression of unit profits on
  - terms-of-trade (tot) and growth rate of GDP (g) (Hahn 2021, Lavoie 2023)
  - and short-term interest rate (i3m) (Heine/Herr 2022)
- Forecast errors from an ARDL(3,3), best in-sample forecasting model out of 31: static/ARDL/VAR regressions, up to 3 lags and with or w/o taking growth rates, with or w/o i3m (in-sample=1999-2019)
- Sign for extraordinary profits in 2020, 2022 and 2023

Static forecasts from ARDL(3) with FE for unit profits explained by GDP-growth rate, Terms-of-Trade, short term interest rate



**YES!**

i=19 EA-countries

Estimation for T=2002-2019, forecast-sample : 2002-23

(out-of-smpl forecasts : 2020-23, before in-smpl forecasts)

# Conclusion

- Motivated by ideas of conflict inflation, we try to identify if there is evidence of “too high” wage or “too high” profit developments in euro area countries on a national level.
- **Little evidence for too high wages till 2022:** only slightly above wage rules (apart from job retention schemes in 2020).
- **Evidence for extraordinary profits in 2020 and 2022 & 2023:** higher than profit rule, and cannot be explained with t-o-t shocks, changes in interest rates, GDP developments
- Higher profits may be justified by inflation expectations for 2022 (CB statements) but not for 2023.
- Profits due to a fitting “narrative” as discussed in Weber/Wasner (2023) and Okun (1975)?
- Findings an argument for a different policy reaction to avoid extraordinary profits (see Heine/Herr 2022, 2023), suboptimal policy results (Hein 2023, Chowdhury/Sundaram 2023) or even amplification (Weber/Wasner 2023)?



# Thank you

Unser neuer Masterstudiengang!

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Master

**EUROPÄISCHE WIRTSCHAFTSPOLITIK**

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