UNIVERSITY OF TECHNOLOGY
IN THE EUROPEAN CAPITAL OF CULTURE
CHEMNITZ

Economic Policy in Practice

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Outline

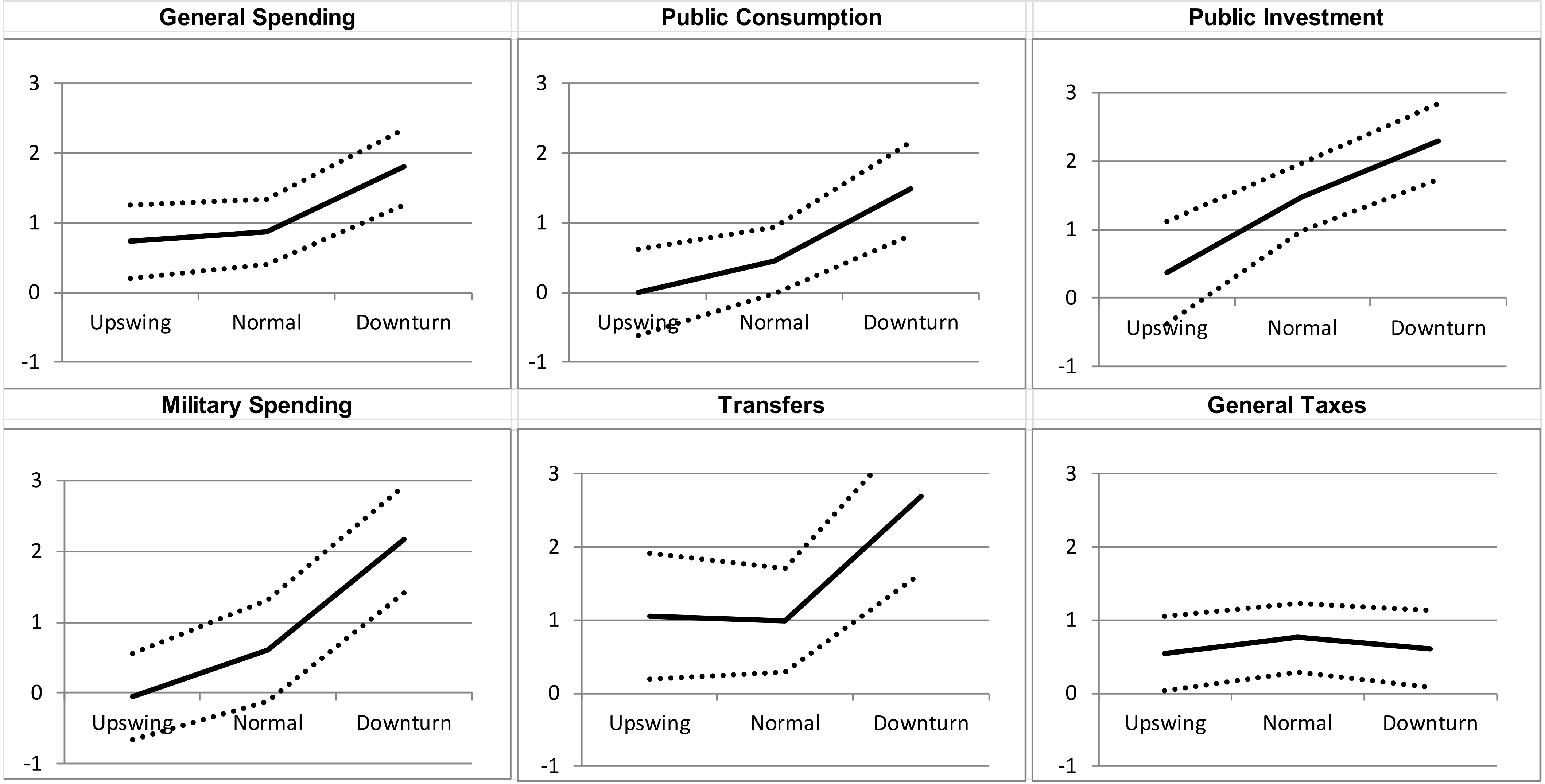
1. **Fiscal Policy Effects in PK vs NK Models**
2. Fiscal Rules and Debt Sustainability

The Main Elements and Distinctions

PK Models (e.g. Palley 2019)	NK Models (e.g. Woodford 2011)
Focus on **macro** relations (Keynesian Cross, $I \rightarrow S$, paradox of thrift)	Macro from **micro-optimization** (consumption / leisure / labor)
Aggregate **demand** (AD) drives output in **short** and **long** run, steep IS, flat LM curve	Aggregate **supply** (AS) multiplier (intertemporal labor supply shift), AD only relevant short run
Functional distribution important via differential MPCs	Strong role for monetary policy and **real interest** channel
Quantity $\gg$ price adjustments	**Price** $\gg$ quantity adjustments
AS with **Leontief** PF	AS with **Cobb-Douglas** PF
Crowding-**in** of consumption + investment	Crowding-**out** of consumption + investment
FP very powerful, MP weak	FP weak, MP very powerful

Macro Facts: Fiscal Multipliers

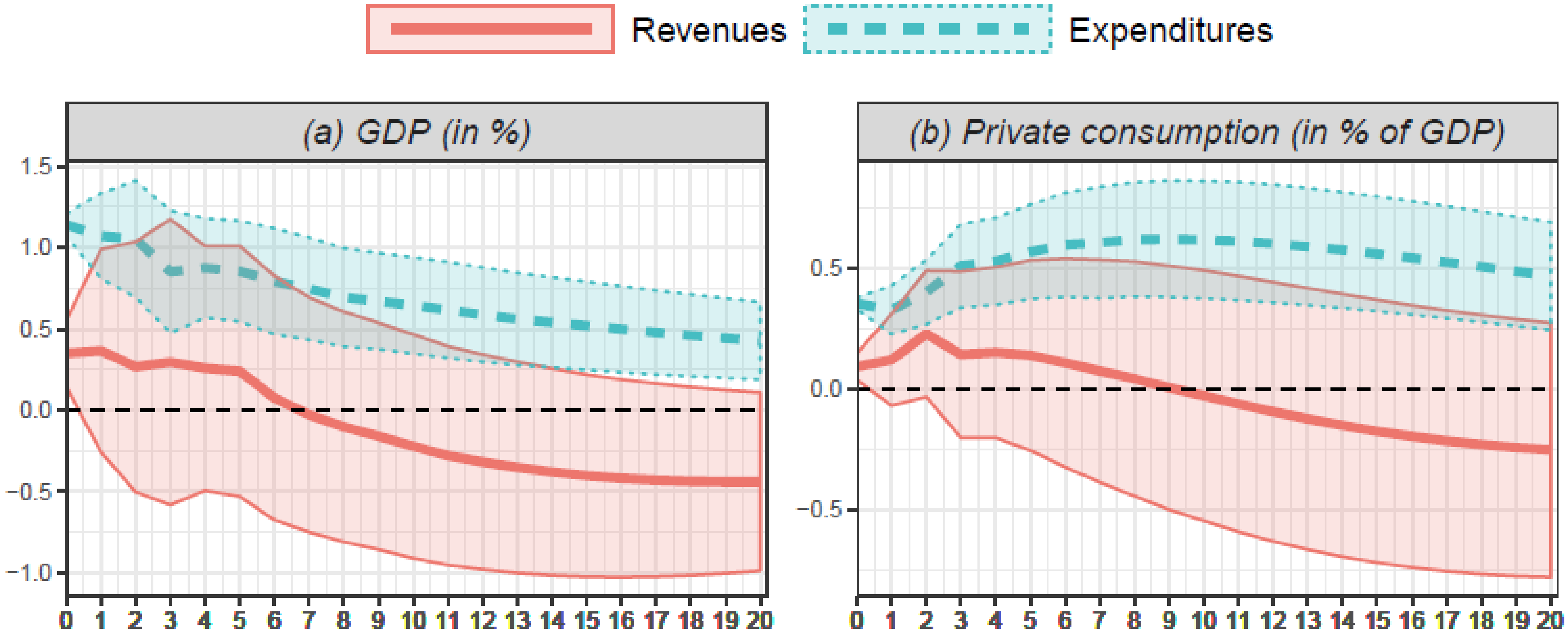
Meta Regression Analysis of >1800 multiplier estimates



Source: [Gechert/Rannenberg (2018)]

Closer Look on Taxes vs Transfers

Multiplier Effects of Social Security Contributions and Transfers: Germany



Source: [Gechert/Paetz/Villanueva (2021)]

Fiscal Multipliers

Post Keynesian (PK) or New Keynesian (NK)?

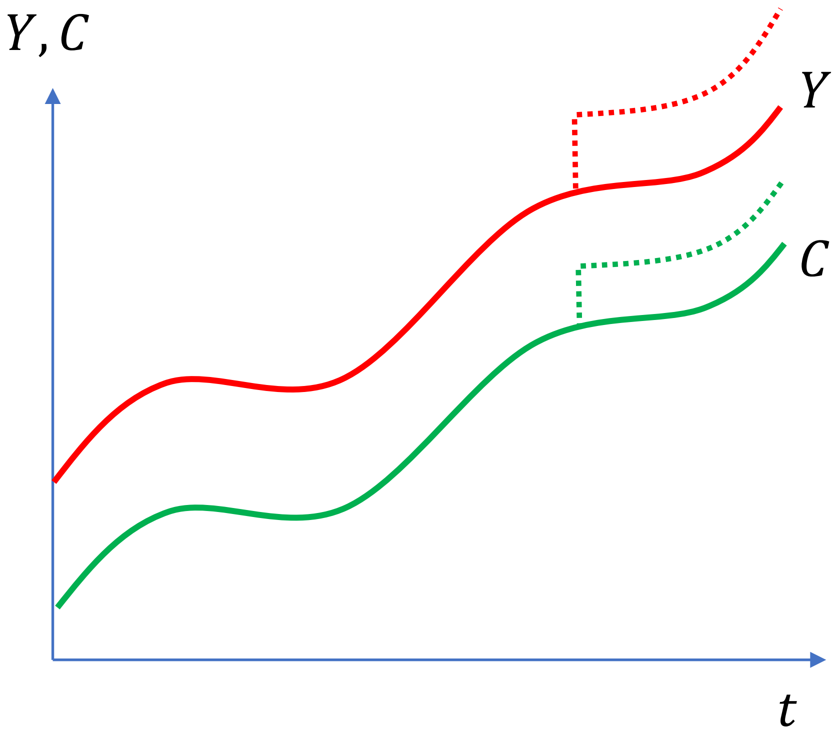
Macro Stylized Fact	**PK Model**	**NK Model**
Ma-I. Average spending multiplier ≈ 1	✓ (open economy, income tax, reactive MP)	X (≈ 0.5 with MP Taylor rule)
Ma-II. Average tax multiplier < 1	✓ (see above)	X (>1 with distortionary tax)
Ma-III. Crisis spending multiplier ≈ 2	X (not via consumption)	✓ (ZLB, transitory shock)
Ma-IV. Crisis tax multiplier <1	✓ (but only since non-linearity is weak)	✓ (ZLB, average of heterogenous taxes)
Ma-V. Transfer multiplier > tax multiplier	✓ (targeting to workers / unemployed)	X (distortionary tax, requires high HtM share)
Ma-VI. Multiplier persistence	✓ (though not special to crises)	X (though competing mechanisms under debate)

Micro Theory: Consumption Function

Permanent Income Shock

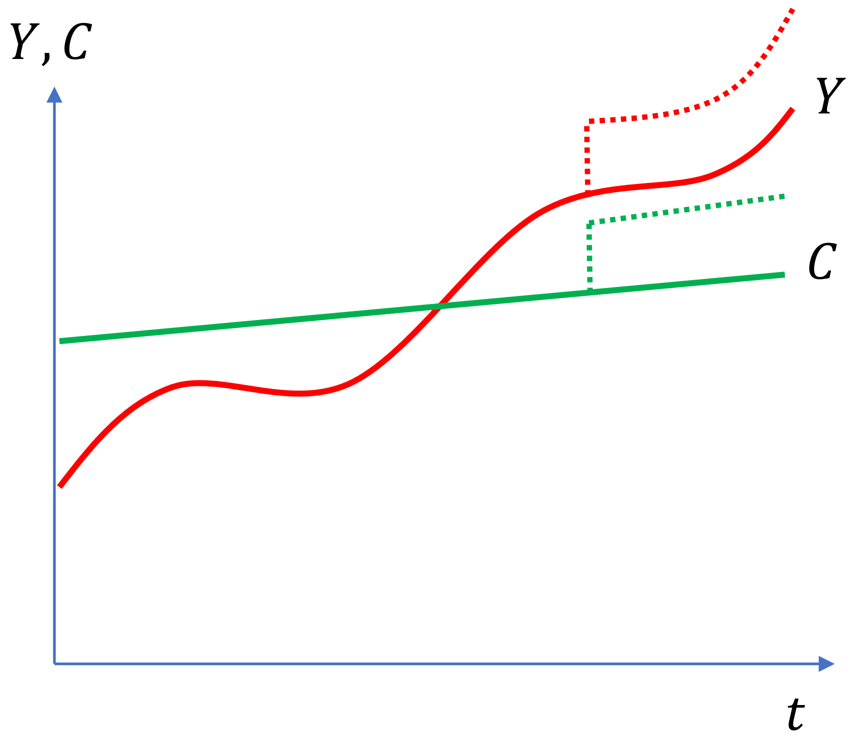
Post Keynesian $C_t = c \cdot Y_t$

$MPC = c$



New Keynesian $\bar{C} = \bar{Y}$

$MPC = 1$



Micro Theory: Consumption Function

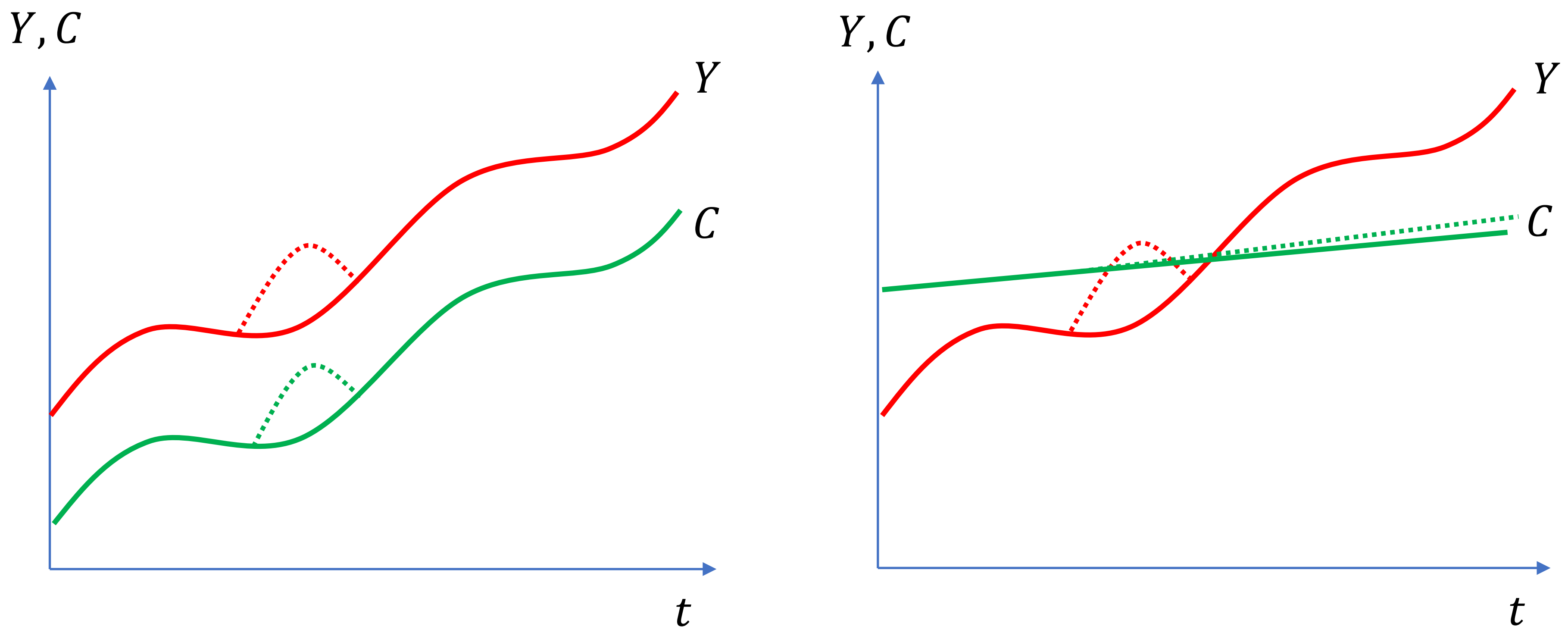
Transitory Income Shock

Post Keynesian $C_t = c \cdot Y_t$

$MPC = c$

New Keynesian $\bar{C} = \bar{Y}$

$MPC \approx 0$

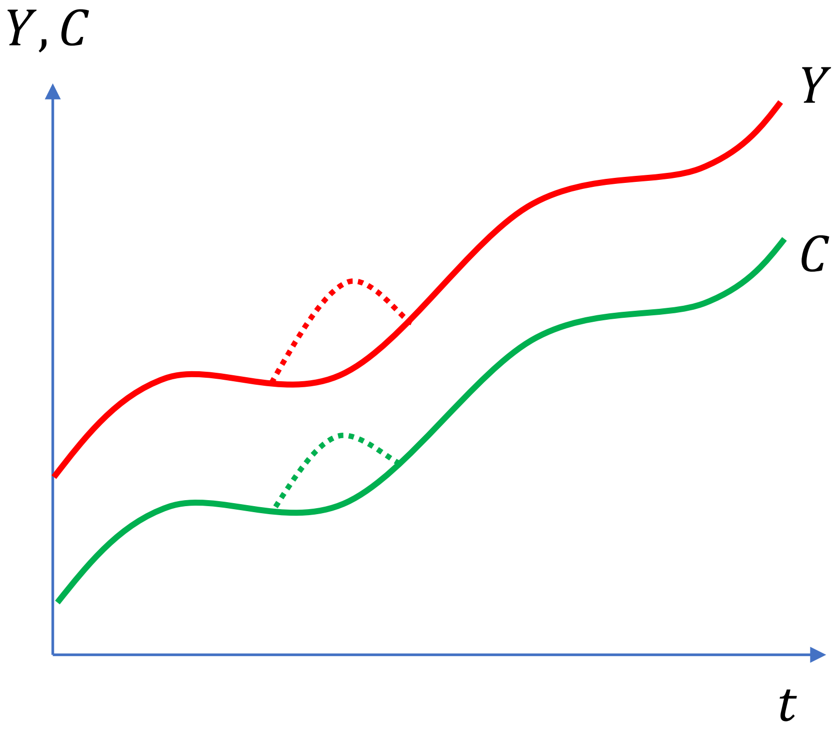


Micro Theory: Consumption Function

Transitory VAT Cut

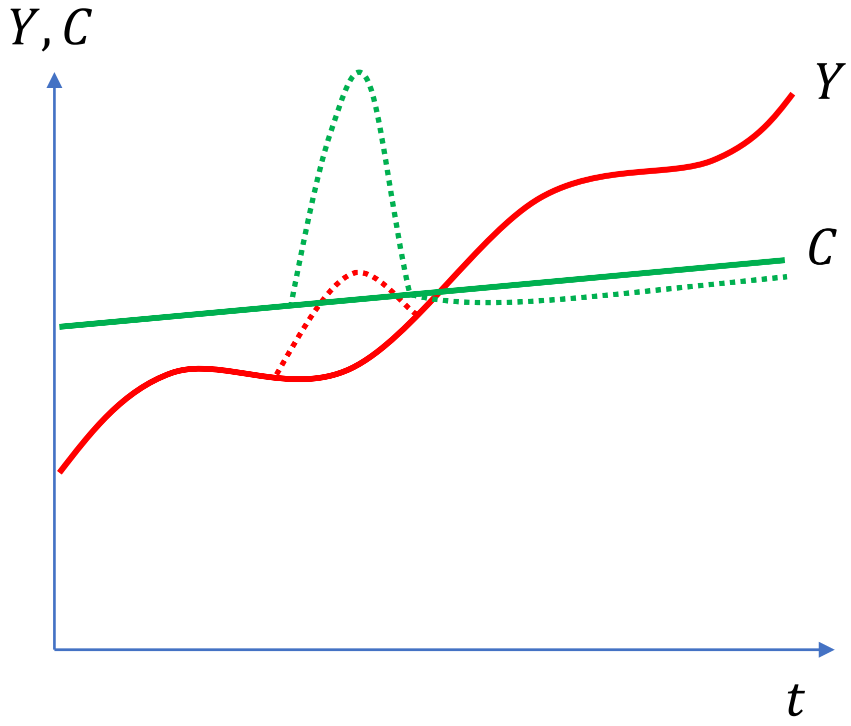
Post Keynesian $C_t = c \cdot Y_t$

$MPC = c$



New Keynesian $\bar{C} = \bar{Y}$

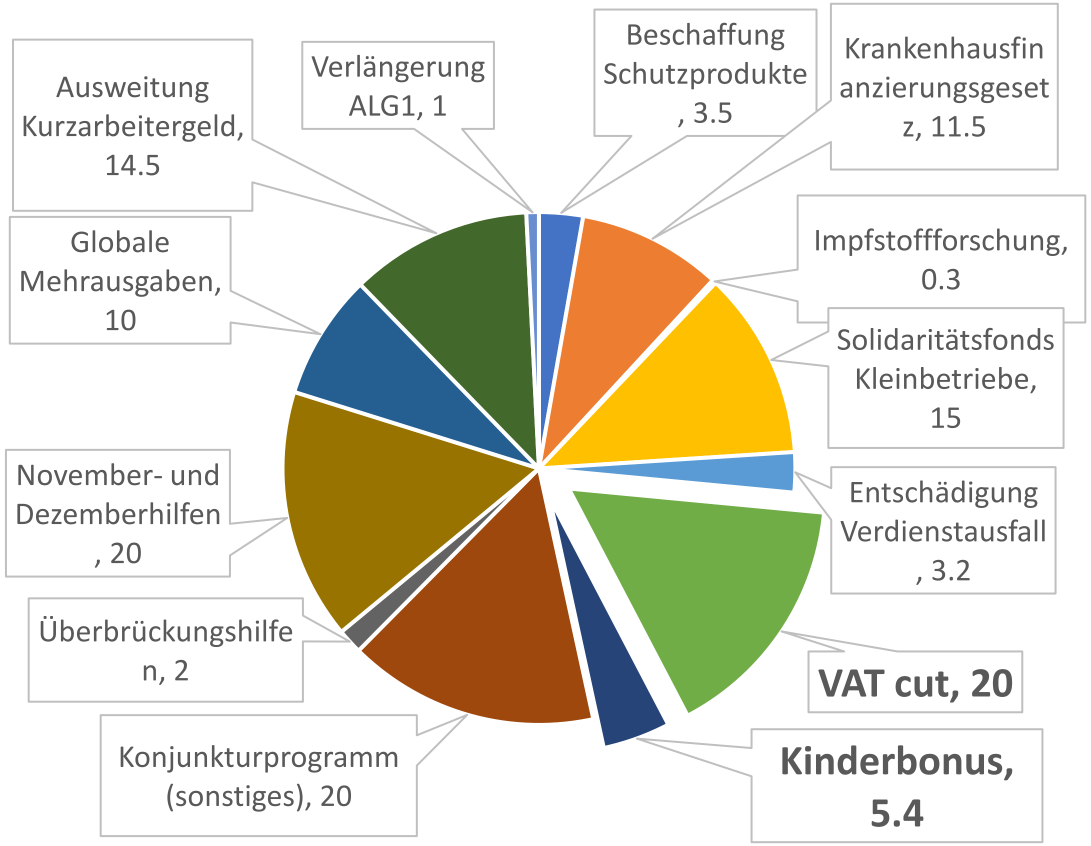
$MPC > 1$



Micro Facts: German Stimulus Package 2020

- In sum ca. €125 Bn (3.5% of GDP) in 2020.
- „Kinderbonus“ 2020, € 5.4 Bn (0.16% of GDP)
- Temporary VAT cut ca. € 20 Bn (0.6 % of GDP) Jul-Dec 2020

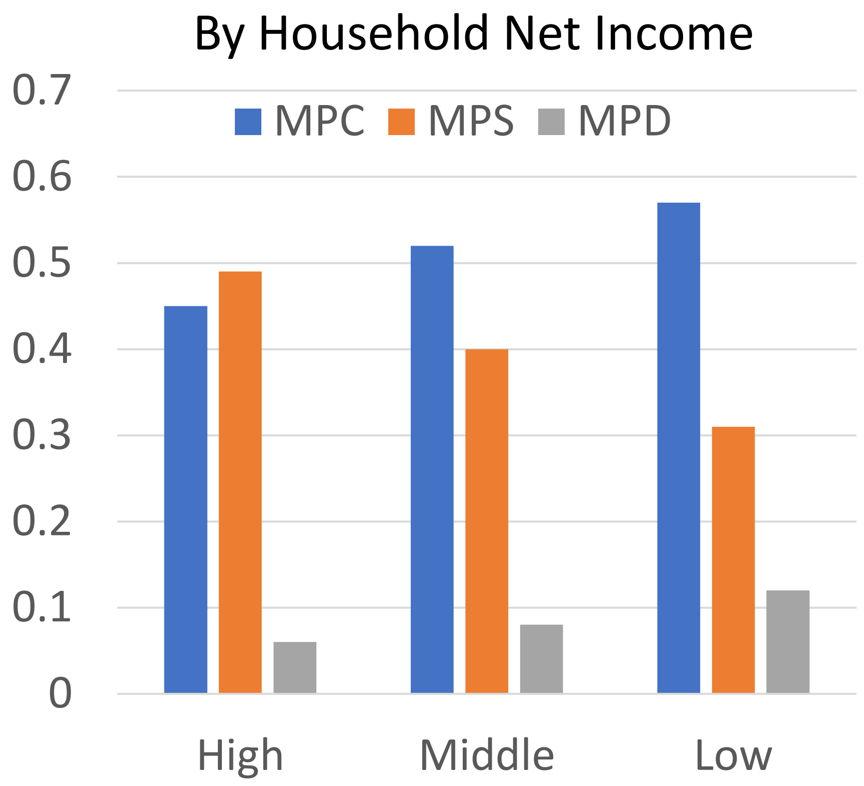
→Interesting test bed for competing consumption theories

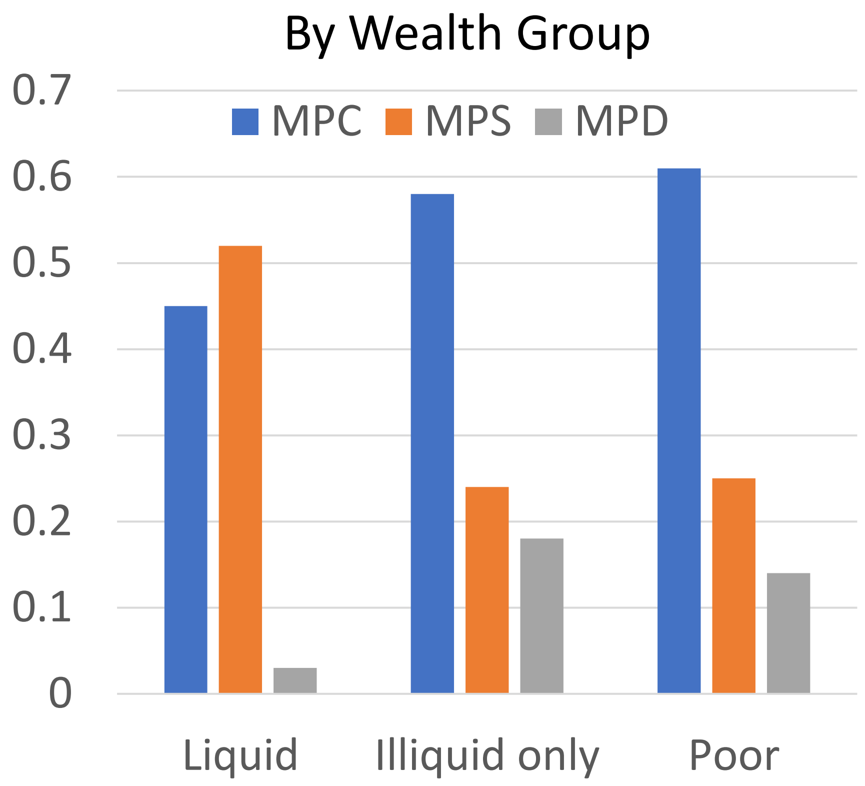


Source: DIW (2020), own calc

Kinderbonus 2020: Consume, Save or Repay Debt

Survey: „You received [x] Euro as kinderbonus. How did you use this money?“ (consume, save, debt repayment, 3 months after receipt)

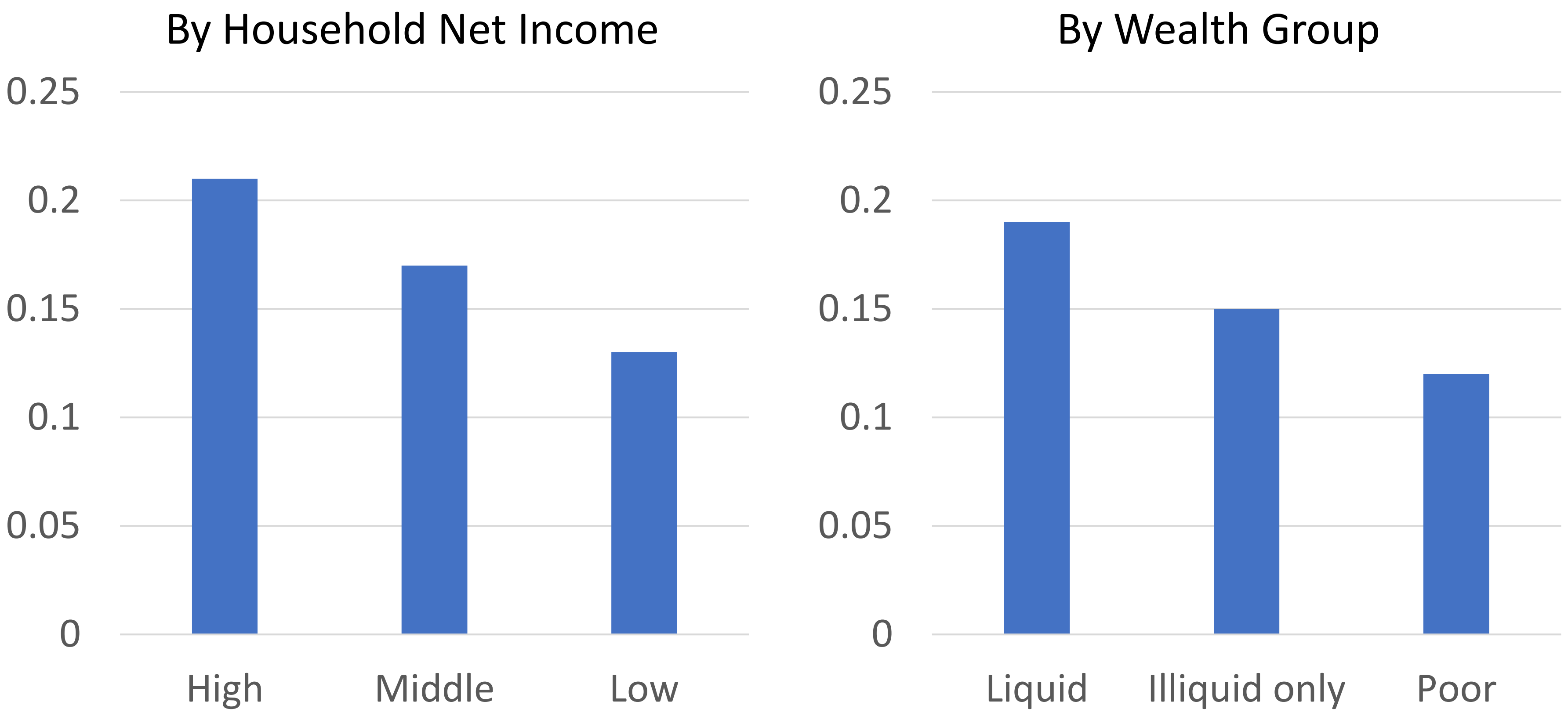




- Average MPC ≈ 0.5
- falling with income and liquid wealth

VAT Cut: Anticipation Effect

Survey: „Did you make a purchase due to the VAT reduction that you would have otherwise made later (or not at all)?“



- Very weak real income effect, rather weak anticipation effect
- Anticipation much stronger with higher incomes, liquid reserves
- While VAT is a regressive tax, temporary cut favored high incomes, wealthy HH

Consumption Behavior

Micro Stylized Fact	PK Model	NK Model
Mi-I. Average MPC ≈ 0.5	✓ (but missing time structure)	X (too low even with HtM households)
Mi-II. MPC falls with current income	✓ (but functional income only and too bimodal)	X (no stand-alone influence from income)
Mi-III. MPC falls with wealth	X (no stand-alone influence from wealth)	✓ (with HtM, but too bimodal)
Mi-IV. MPC rises with perceived debt burden	X (relation would even be negative, if included)	✓ (with credit constraints)
Mi-V. Weak + regressive intertemp. substitution (VAT)	X (no anticipation, progressive income effect of VAT cut)	X (super strong anticipatory effect, progressive effect)

A Keynesian Model

Saving and consumption motives derived from Keynes (1936, Ch 9)

- Intertemporal substitution (muted)
- Precautionary / buffer-stock saving (Carroll 1997, Gechert & Siebert 2021)
- Stone-Geary-Preferences: basic consumption needs, saving as a luxury good (Carroll 1998, Campanale 2018)
- Mental accounting (Thaler 1990, McDowall 2020)

Macro circumstances

- Liquidity constraints (Deaton 1991, Jappelli & Pistaferri 2014)
- Fundamental income uncertainty (Lavoie 2022, Aiyagari 1994)
- Accommodative MP in recession

A Keynesian Model

Consequences – Micro

- Consumption tracks current income closely,
- but consumption smoother than income
- Average $MPC \gg 0$
  - Increases intertemporally
  - Even larger in downturns
  - Even larger for low income / low liquid wealth HH

Consequences – Macro

- Transfer and spending multiplier large in normal times
- Larger + more persistent during downturns
- Less sensitive to persistence of fiscal policy shock
- Weaker and flatter tax multiplier

Outline

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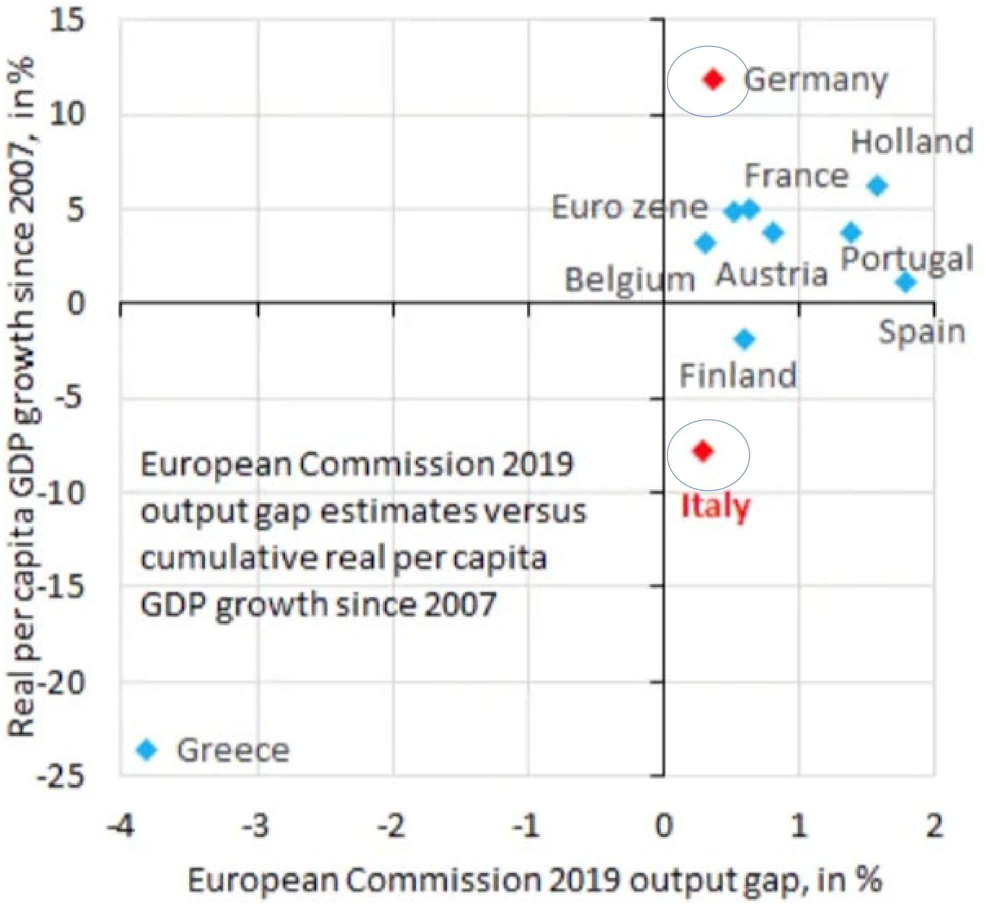
Recent Reform of EU Fiscal Rules

Main criticisms of previous rulings (see also Dullien et al. 2022)

- Fiscal rules (provisions in EU treaties, secondary regulations) more flexible after Euro Area crisis, but grew much too complicated
- No success in preventing rise in public debt/GDP ratios
- Structural balance poorly estimated („output gap nonsense“, Tooze 2019), procyclical (Paetz 2020)
- Public investment vulnerable to austerity and restricted in recessions due to fiscal rules (Jürgens 2022)
- 60% debt rule and 1/20 reversion rule much too ambitious
- Not recognizing the dynamics of $r <> g$ relation

Cumulative GDP growth 2007-2019 vs. 2019 output gap



Source: Tooze (2019)

Recent Reform of EU Fiscal Rules

The “New” Rules

- 60% debt rule + 3% deficit rule still in place
- Debt Sustainability Analysis (DSA) as new game in town:

“By the end of the adjustment period, assuming that there are no further budgetary measures, the projected general government ***debt ratio is put or remains on a plausibly downward path****, or stays at prudent levels below 60 percent of GDP over the medium-term”* (Regulation (EU) 2024/1263).

→ stochastic analysis, different adverse scenarios, 70% probability to achieve debt/GDP downward path

- Additionally: enforced 3% deficit rule + further “safeguards”
- Single operational metric: net expenditure rule → less procyclical than structural balance

Recent Reform of EU Fiscal Rules

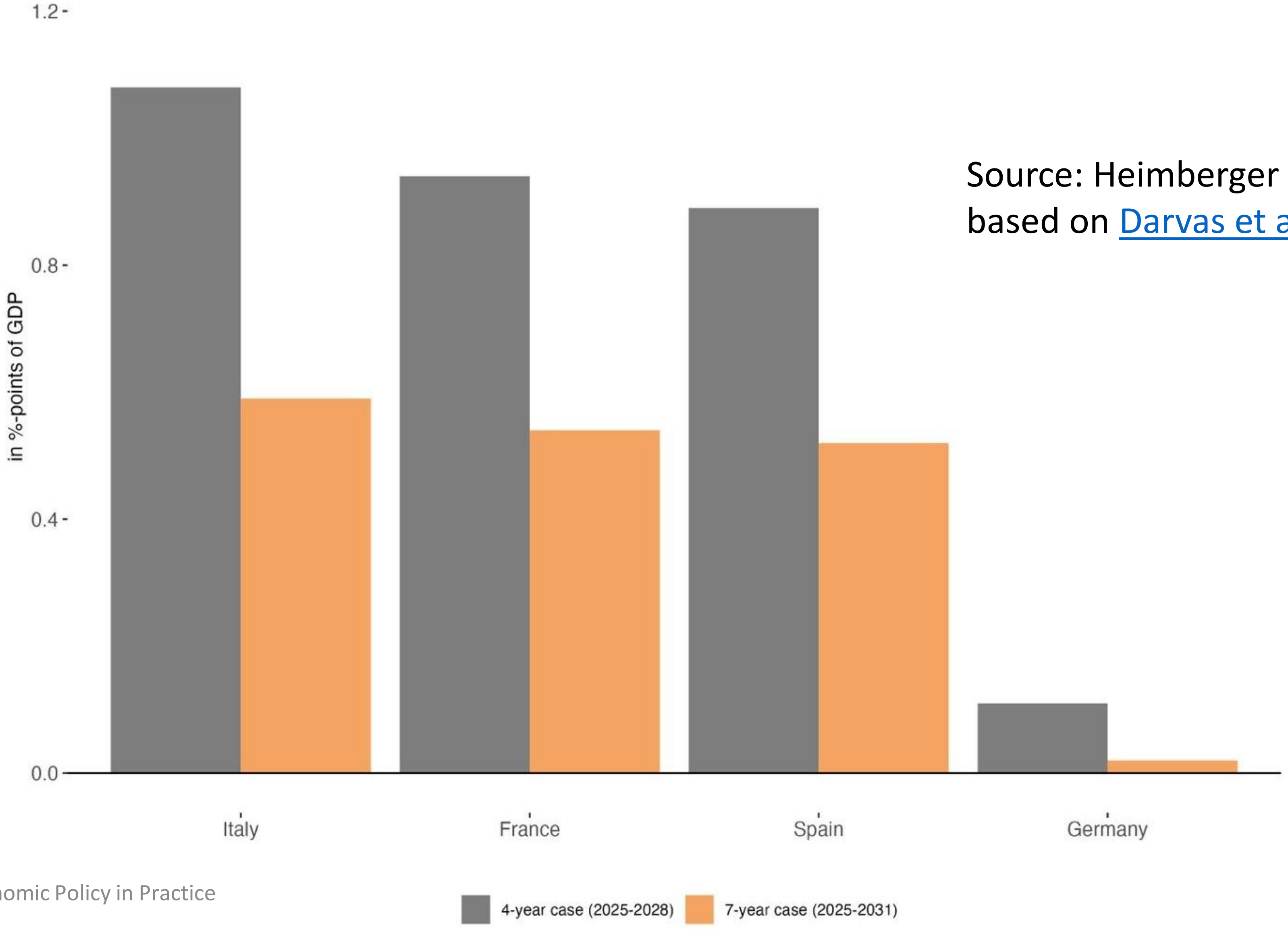
How is the DSA applied? (Simplified!)

- Standard dynamics of the debt/GDP ratio: $d_t = \frac{(1+r)}{(1+g)} d_{t-1} - pb_t$
- Stabilizing primary balance: $pb^* \geq \frac{r-g}{1+g} d^*$
- Assumptions:
  - r exogenous (though different stress scenarios)
  - g exogenous potential output, output gap closes after 3 years
  - Short-term multiplier effect from structural pb on g
  - Feedback from g on cyclical component of pb via taxes & transfers (automatic stabilizers)

- Calculate baseline debt/GDP trajectory
- Calculate required consolidation to meet rules (including feedback)
- All done country by country, no spillovers

Fiscal consolidation requirements to meet reformed EU fiscal rules

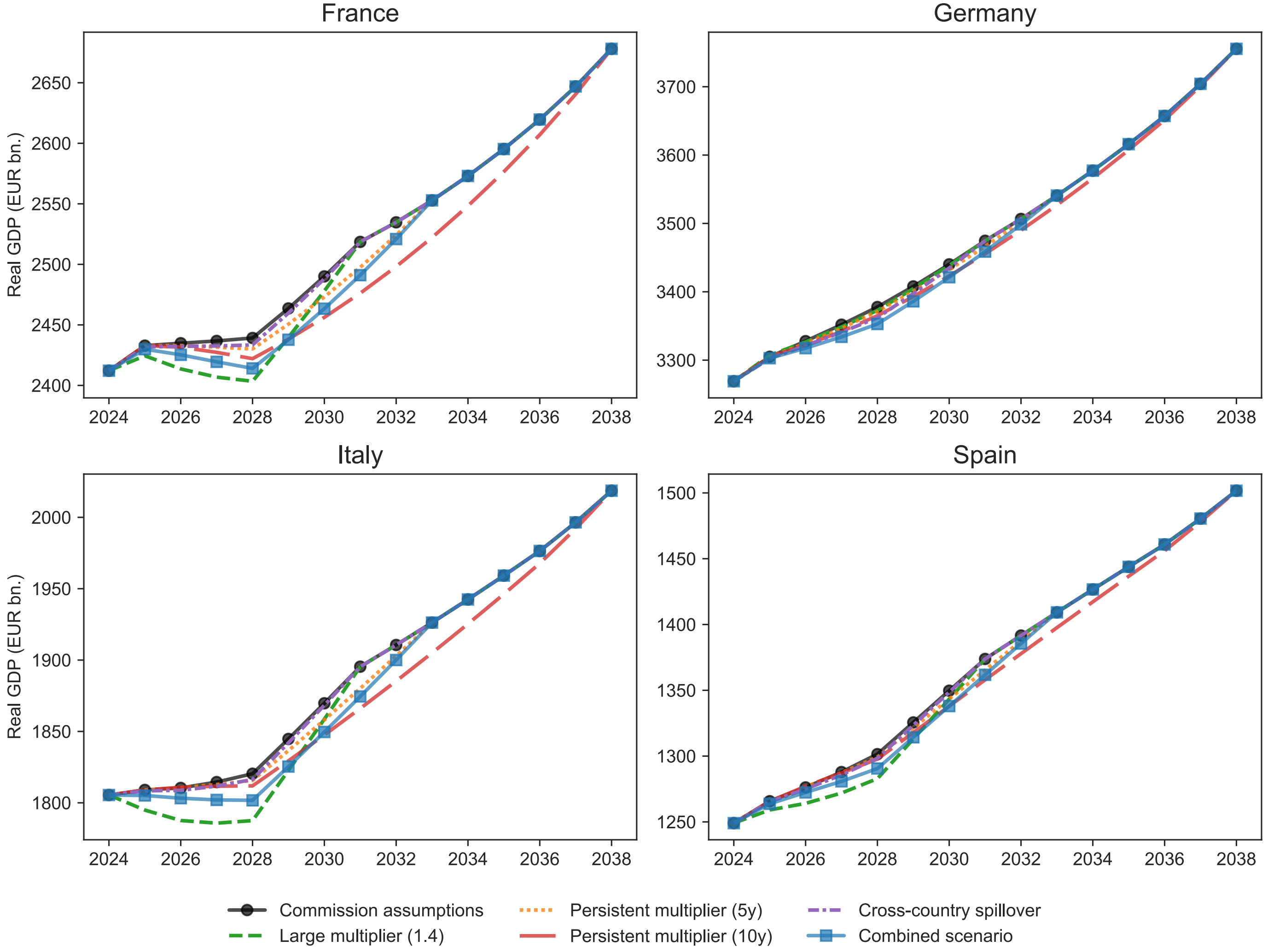
Annual improvement in the structural primary balance, in % of GDP



Source: Heimberger et al. (forthcoming), based on [Darvas et al. (2024)]

Simulation of consolidation effects with alternative assumptions

Real GDP Levels

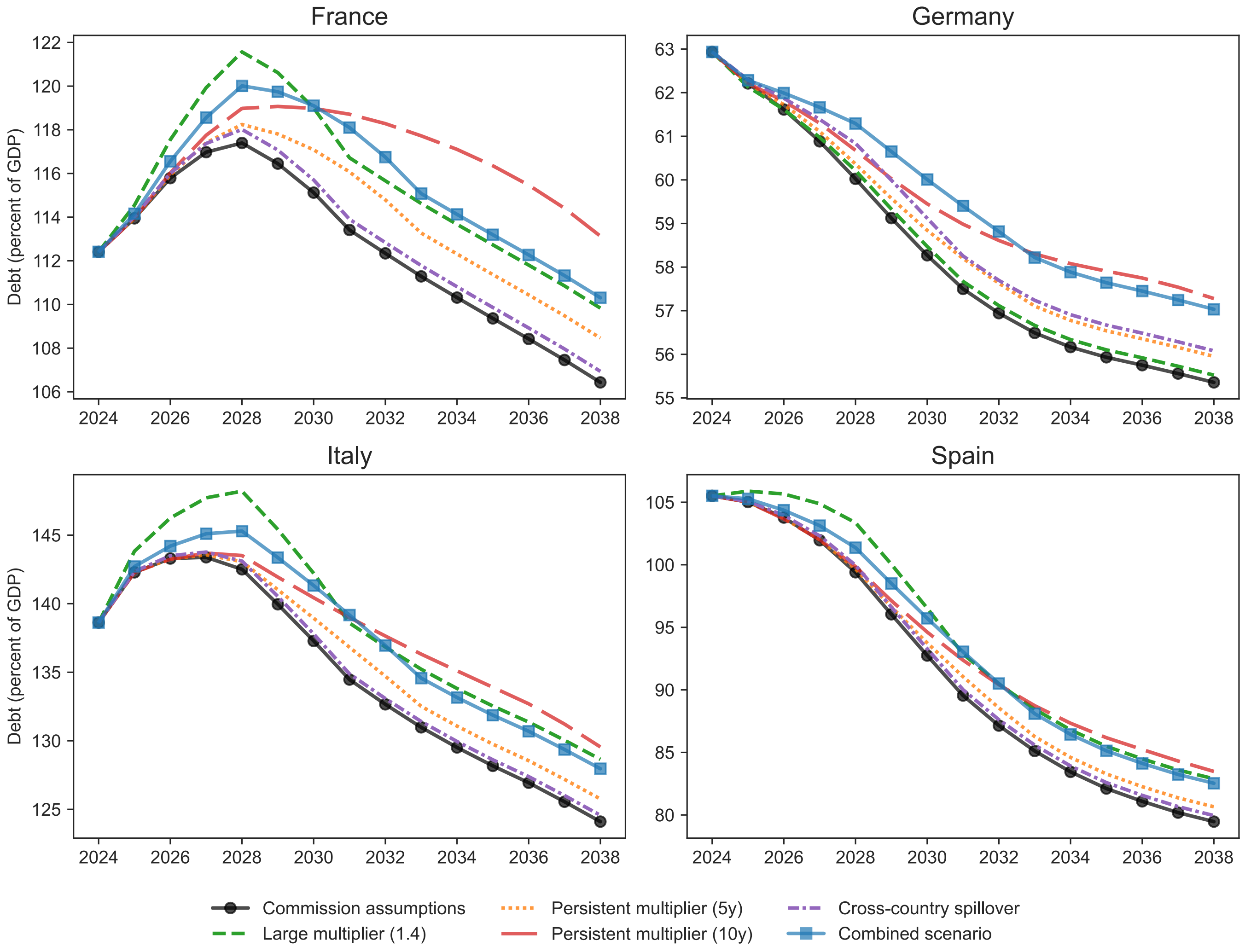


- Larger fiscal multiplier 0.75 -> 1.4
- Hysteresis: longer persistence of multiplier (output gap closure 3 years -> 5 or 10 years)
- Spillovers of consolidation effects from other EU countries according to respective export shares
- Combined (multiplier 0.9 + output gap closure 5 years + spillovers)

Source: Heimberger et al. (forthcoming), all code available from Welslau (2024)

Simulation of consolidation effects with alternative assumptions

Debt/GDP Ratios



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Conclusions

New fiscal rules only a small improvement

- Expenditure rule useful, but notorious structural balance and output gap nonsense re-enters through the backdoor
- 60% debt/GDP target completely illusory + unnecessary in $r < g$ world
- With some hysteresis, self-defeating effects of austerity on debt/GDP even stronger
- 3% deficit rule should focus on primary balance (instead of headline balance), recognizing interest payments / legacy debt (Dezernat Zukunft)
- Missed chance of implementing proper Golden Rule of public investment
- DSA likely too optimistic: high risk of doubling down with more pro-cyclical consolidation (cf. Euro Area crisis)