Discretionary Spending is the Cycle

and why it matters for monetary policy

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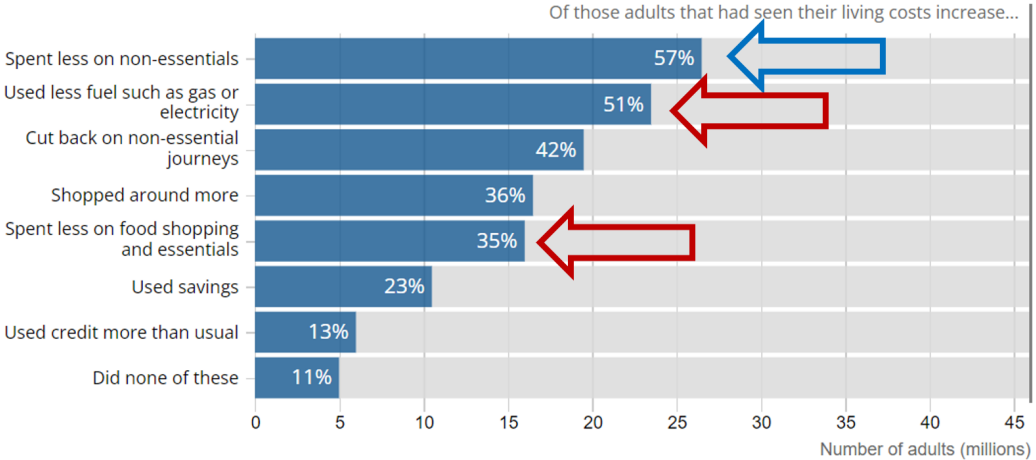
"The poorer a family is, the greater the proportion of total expenditure it must devote to the provision of nourishment. [...] Lowering income acts like a litmus test on the consumer's priorities*: it crowds out expenditures related to* wants that are less basic *and leaves those expenditures related to* more fundamental wants*."*

Ernst Engel (1857)

Discretionary Spending is Easier to Cut or Postpone (BoE survey, 2022)

Q: 'Which of the following are you doing because your cost of living has increased?'



Throughout the presentation, I will use necessity, essential and basic on the one hand, and discretionary, non-essential and luxury, on the other hand, as synonymous.

The Measurement of Necessity Versus Discretionary: from Micro to Macro

Use MICRO data to categorize necessity and discretionary categories and industries.

1. Final consumption: British ONS + income elasticity of demand ($\gtrless 1$) for US.

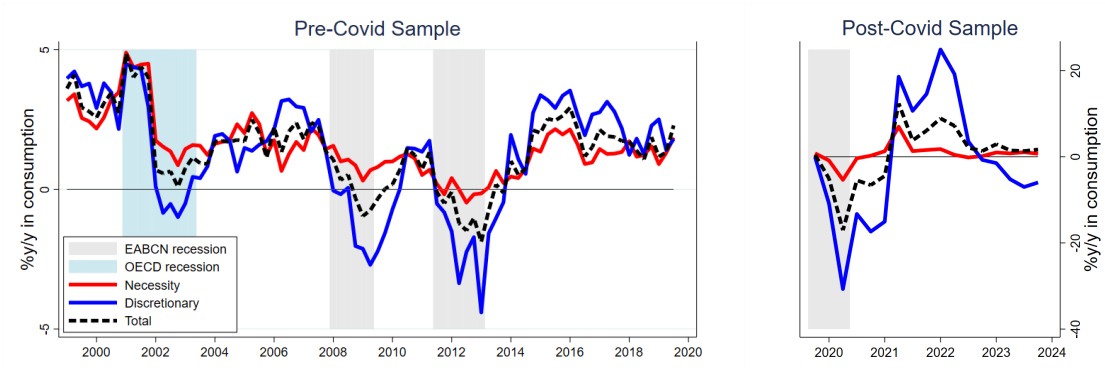
   Necessity: food, energy, rent, water, medical products & services, insurance, personal care, etc

   Discretionary: vehicles, hospitality, clothing, alcohol, tobacco, dine out, furniture, household appliances, transport services, newspapers, books, package holidays, tertiary education, etc

2. Intermediate industries: input output matrix + Leontief inverse.

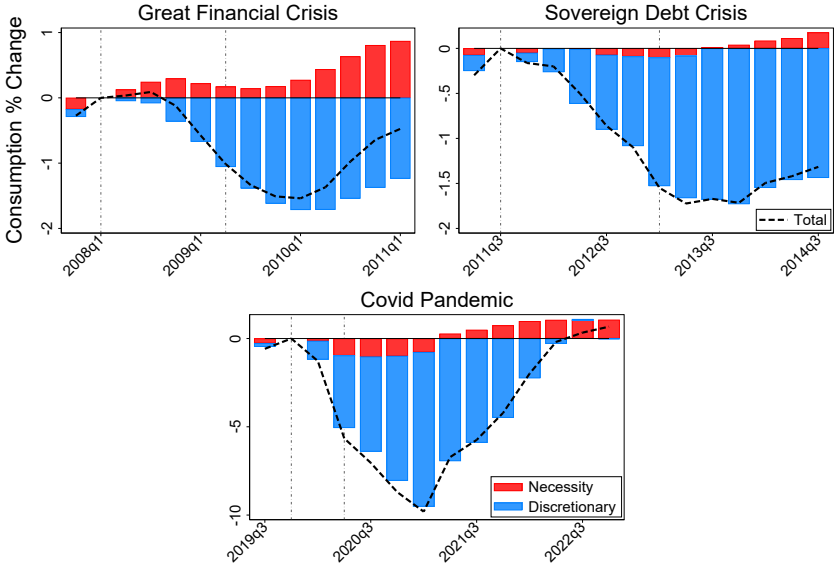
Novel MACRO time series: CONSUMPTION, PRICES, EMPLOYMENT, WAGES, DIVIDENDS, STOCK RETURNS, GROSS VALUE ADDED, COMPENSATION of EMPLOYEES, OPERATING SURPLUS.

Discretionary Spending is the Cycle



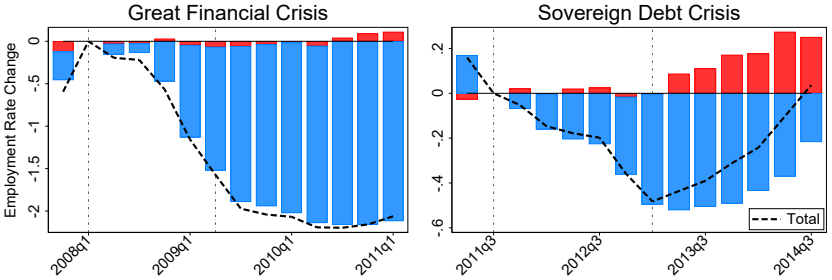
This is different from Durable/Non-Durable/Services!

Discretionary Spending Accounts for 95% of the Last Three Recessions



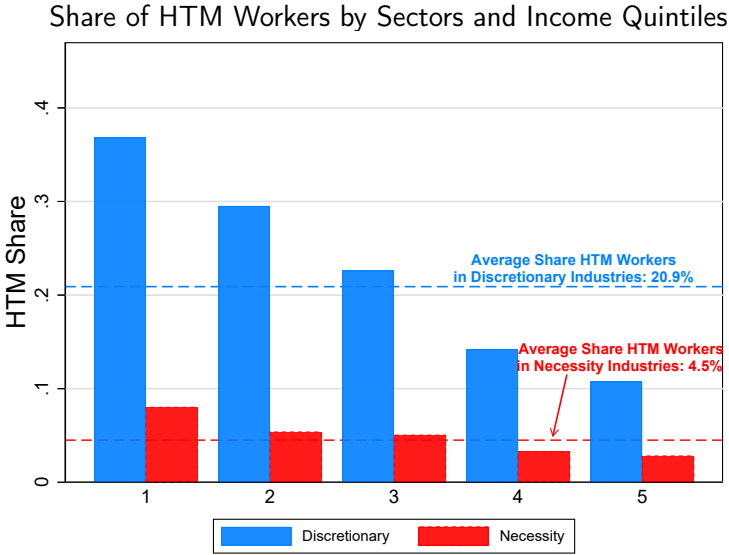
Sources: Authors' calculations on data from Eurostat HBS, Istat, Destatis. EACBN recession dates.

Discretionary Employment Accounts for 96% of the Last Three Recessions



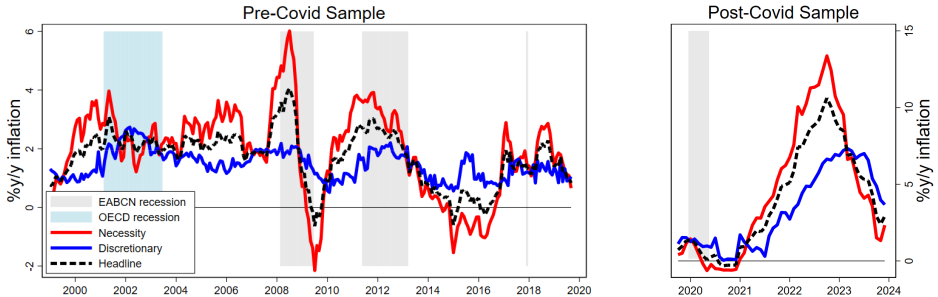
Sources: Eurostat LFS, Eurostat input-output tables. EACBN recession dates.

Hand-to-Mouth (HTM) Workers are mostly Employed in Discretionary Sectors



Hand-to-Mouth (HTM) households defined as in Slacalek, Tristani, Violante (2014). ECB-HFCS 2014.

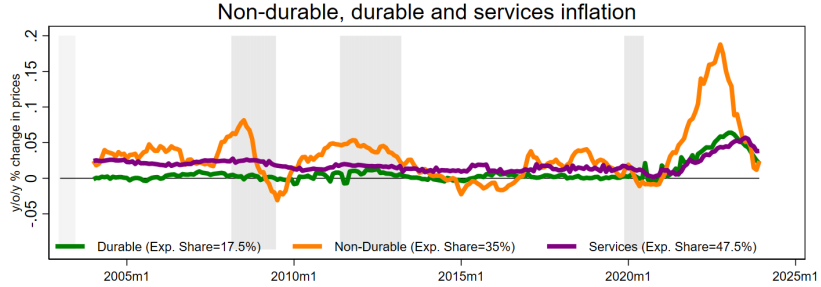
Necessity Inflation Drives Headline Inflation

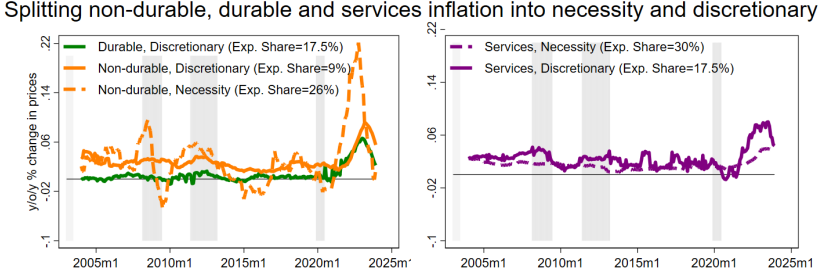


- On average across the GFC, Sovereign Debt Crisis and Covid pandemics, prices in the necessity sector account for 86% of the dynamics of headline inflation.

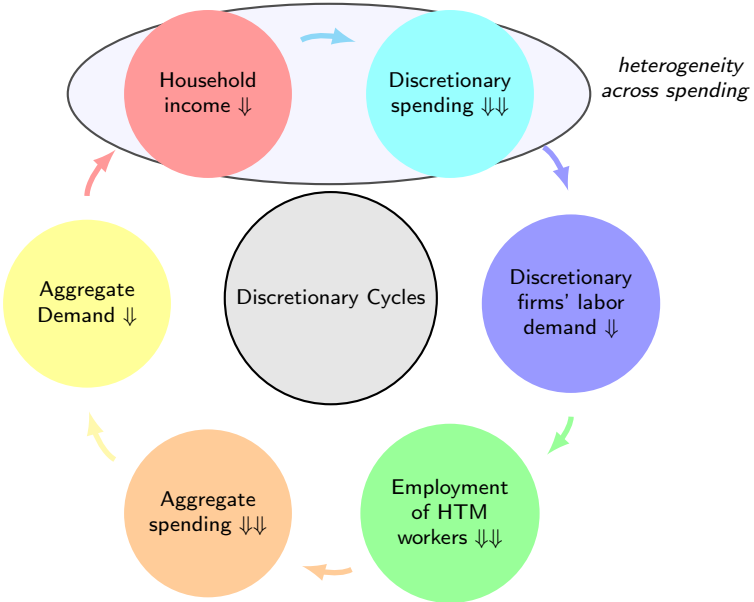
Core Necessity & Core Discretionary Inflation | Frequency of Price and Wage Adjustments in Necessity and Discretion Industries

Another Look at the Recent Inflation Episode





Discretionary Spending is the Cycle...



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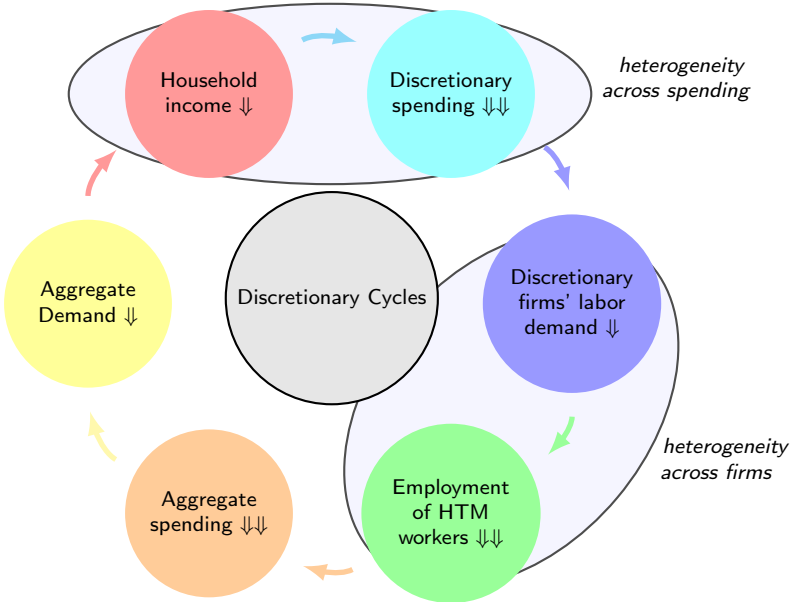
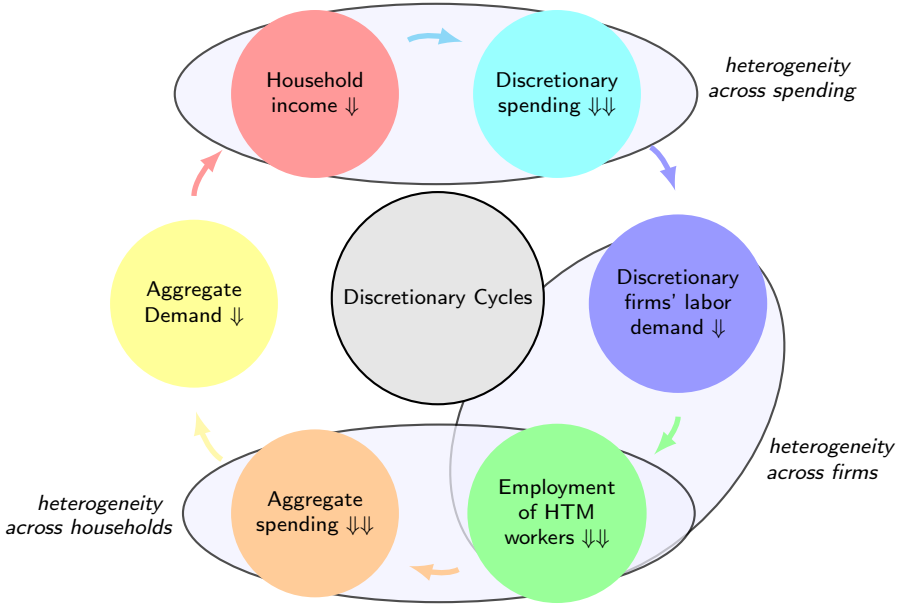
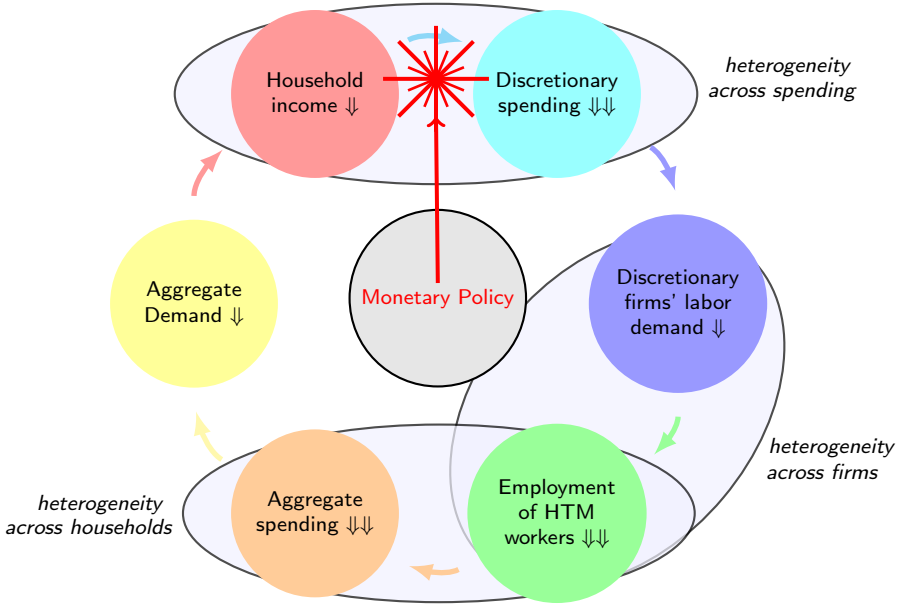


Discretionary Spending is the Cycle...



...but Monetary Policy Can Short-Circuit the Discretionary Cycle



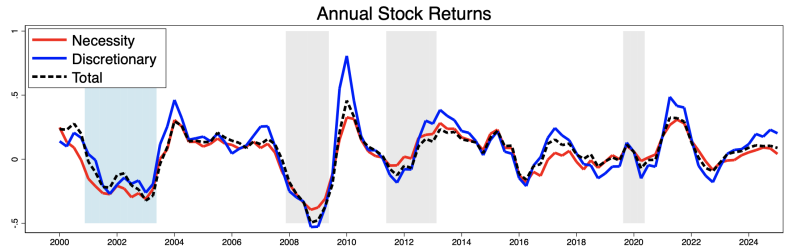
New Leading Indicators for the Euro-area

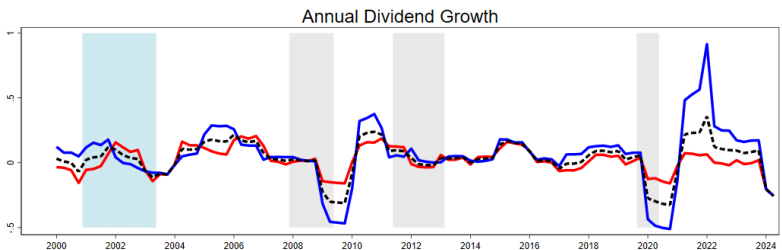
- Spending, employment rate, and dividends in discretionary outperform necessity sectors
- Only necessity prices helps predict EA GDP and HICP.

	Predicting:	GDP and HICP	
		Aggregate	Necessity vs Discretionary
Consumption	*Aggregate*	0.0001	
	Necessity		0.003
	Discretionary		0.0000
Employment rate	*Aggregate*	0.007	
	Necessity		1.0000
	Discretionary		0.03
Prices	*Necessity*		0.0000
	Discretionary		1.00
Stock market	*Aggregate*	0.05	
	Necessity		0.003
	Discretionary		0.0003
Dividends	*Aggregate*	0.12	
	Necessity		0.99
	Discretionary		0.04
Unemployment Rate		0.0002	0.0001
Industrial confidence		0.002	0.00
Oil price		0.07	0.009
US GDP		0.02	0.006
EURUSD		1.00	1.00

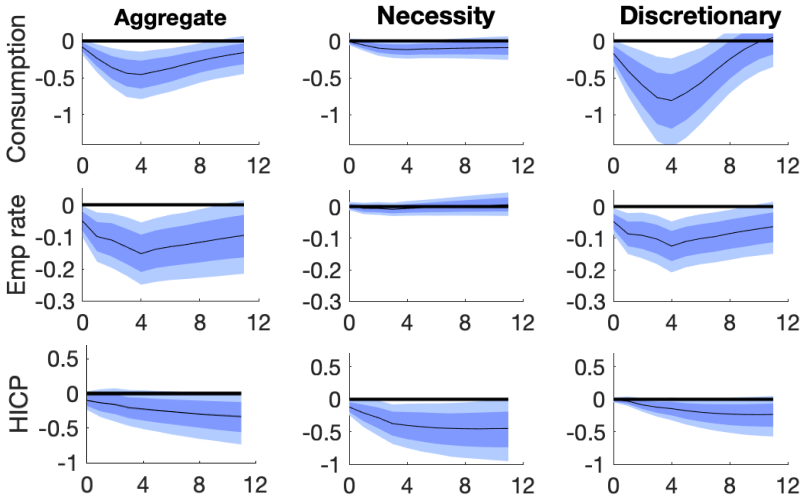
Predictability legend: dark blue = very high; light blue = high; green = low; yellow = very low

Stock Returns and Dividends of Firms in Discretionary Industries are Far More Cyclical





'A Tale of Two Cities': same findings using identified monetary policy shocks



Sample: 1999Q1-2024Q2, BVAR(4). HFI of mp shocks from Jarocinski and Karadi (2020).

Related Literature

1. ChaMP Research Network: massive concerted efforts from ECB and NCBs to investigate heterogeneity across countries, households, financial conditions and firms in the transmission of monetary policy in the EA (e.g. Rubbo et. al, 2025)
2. ECB Wage Tracker: massive concerted efforts from ECB and NCBs to study heterogeneity in wage negotiations across countries and sectors for the transmission of monetary policy in the Euro area (e.g. Botelho et. al, 2025).
3. Massive concerted efforts from Chiara, Natalie, Michele and I to contribute to [1], as well as from Holton, Altavilla, Hoynck and I to contribute to [1] and [2].
4. Voluminous literature on the transmission of monetary policy in the Euro-Area.

Summary of the Empirical Findings

During a recession or after an increase in interest rates:

1. households cut discretionary spending more
2. firms in discretionary industries contract labour demand more (mostly employment)
3. hand-to-mouth workers are mostly employed in discretionary sectors
4. necessity inflation is more volatile/responds more than discretionary inflation
5. operating surplus in discretionary industries falls by more. How about mark-ups?
6. stock returns and dividends paid by discretionary companies decline by more

A legitimate question: So what? Does it matter for the conduct of monetary policy?

A New Framework for Monetary Policy Analysis in the Euro-area

Novel ingredients:

1. Non-homothetic preferences on two types of goods with different income elasticities
2. HTM workers in discretionary industries; Ricardian workers in necessity industries.
   - Ingredients [1] + [2] endogenously generate cyclical labour demand composition

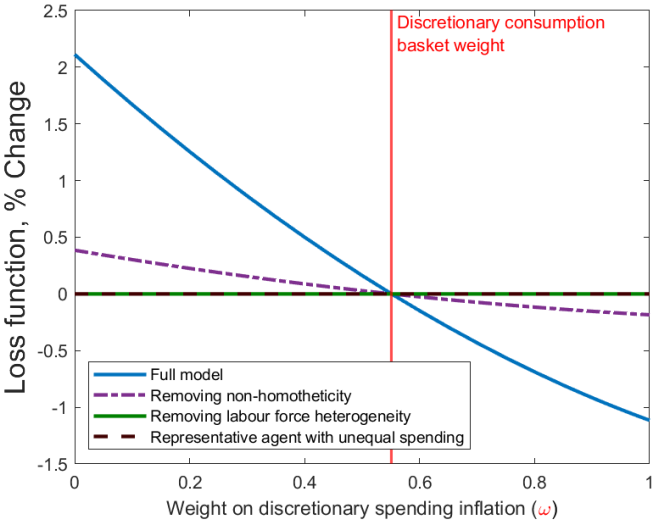
Almost standard ingredients:

- Sticky prices and inattentive households
- MP: $i_t = \phi_\pi \left(\omega \cdot \pi_t^D + (1 - \omega) \cdot \pi_t^N \right) + \phi_y \hat{y}_t$, with ω = weight on discretionary inflation

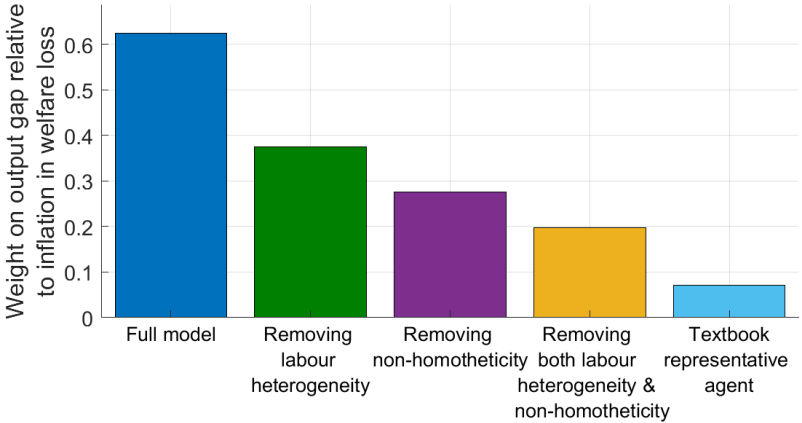
Main features of our framework:

- consistent with the novel empirical findings for the Euro-area. Amplification!
- study optimal monetary policy (model-based welfare criterion) in terms of ω and other model ingredients such as heterogeneity in spending [1] and labour force [2].

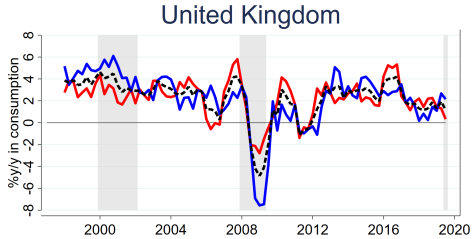
Targeting ONLY Discretionary Spending Inflation Improves Welfare in our Framework

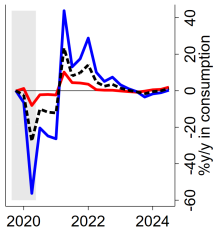


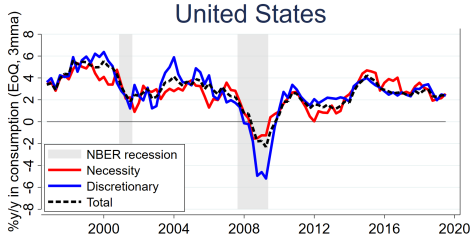
Optimal Monetary Policy Places More Weight onto the Output Gap in the Loss Function

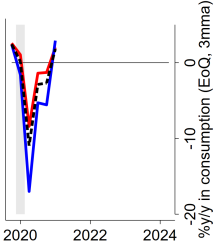


Discretionary Spending is the Cycle also in the U.K and the U.S.!









What Have We Learnt?

- Overlooked source of heterogeneity in consumer spending composition
- Overlooked source of heterogeneity in sectoral labour force composition
- These two empirical findings significantly alter the transmission of monetary policy

- Focusing on discretionary inflation can help stabilize aggregate demand more
- Our framework suggests a more coherent and robust measure of 'Core' inflation

- Very happy to share all the sweat and blood in our codes to interested parties

Thank You!

Table: Average Expenditure Shares (1995 to 2023)

Sector	Non-durables (%)	Services (%)	Durables & Semi-durables (%)	Share of Total (%)
Euro area	35.0	47.5	17.5	100.0
Necessity	26.0	30.0	0.0	56.0
Discretionary	9.0	17.5	17.5	44.0

Source: Eurostat Household Budget Survey

back

Examples of Necessity & Discretionary Durable/Non-Durable/Services

	Durables & Semi-Durables	Non-Durables	Services
Necessity	Telephone and telefax equipment.	Medical products, appliances and equipment, Food, Operation of personal transport equipment, Electricity, gas and other fuels.	Rent, Hospital services, Water supply, Personal care, Telephone and telefax services, Financial services, Insurance, Secondary education, Postal services, Social protection, Pre-primary and primary education.
Discretionary	Gardens and pets, Clothing, Footwear, Glassware, household utensils, Audio-visual, photographic and information processing equipment, Vehicles, Household appliances, Furniture and furnishings, Tools for house and garden.	Alcoholic beverages, Non-alcoholic beverages, Tobacco, Narcotics, Newspapers, books and stationery.	Tertiary education, Transport services, Catering services, Recreational and cultural services, Package holidays, Accommodation services.

back

Price Stickiness and Wage Stickiness in Necessity and Discretionary

Table: Monthly Average Probabilities of Price Adjustment

Sector	Prices		Wages	
	All (%)	Excl. Sales (%)	All (%)	Excl. One-off (%)
Euro area	12.3	7.9	4.2	3.8
Necessity	14.9	10.3	4.2	4.1
Discretionary	10.1	6.0	4.3	3.9

Sources: Authors' calculations based on the granular data from Gautier et al. (2024) for price changes and Botelho et al. (2025) for wage changes.

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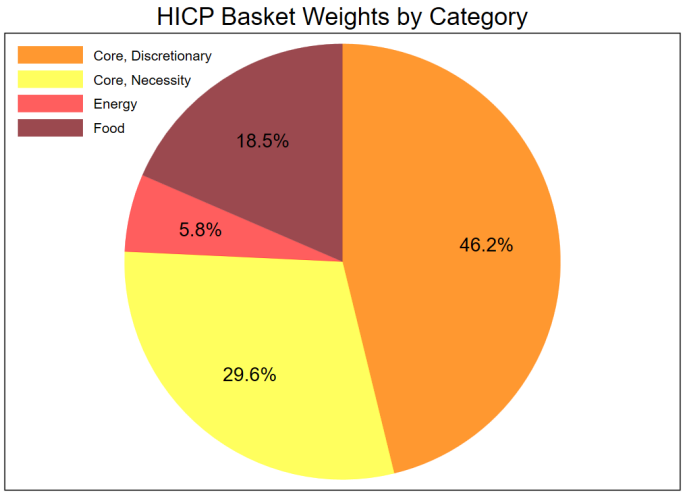
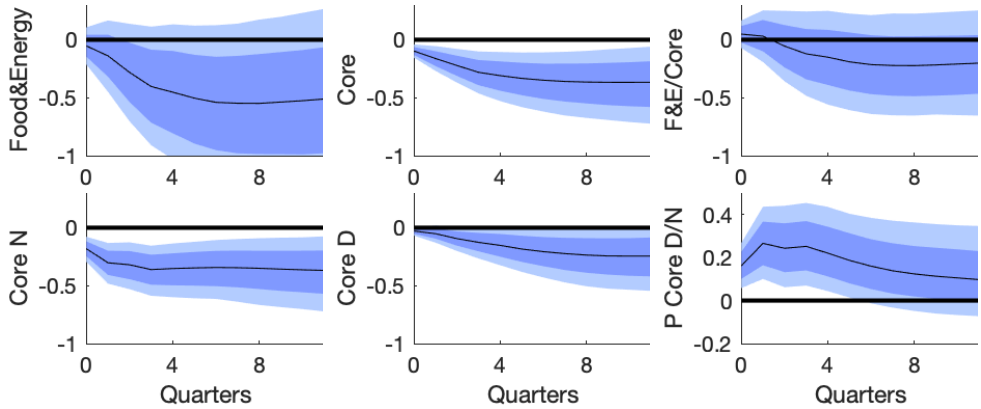
HICP Basket Weights of Food & Energy, Core Necessity and Core Discretionary



IRFs of Food & Energy, Core Necessity and Core Discretionary



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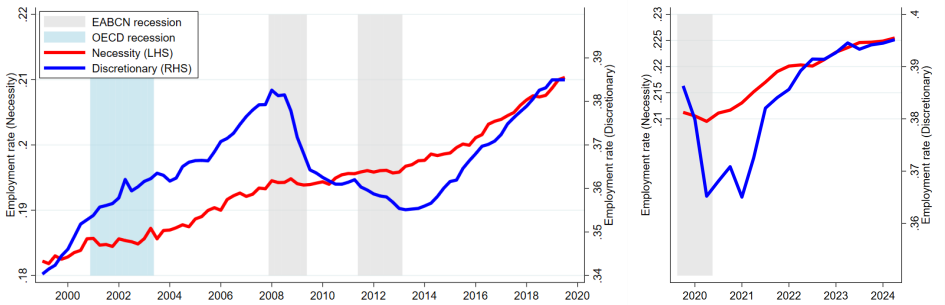
Employment Rate in Necessity and Discretionary Industries over the Business Cycle



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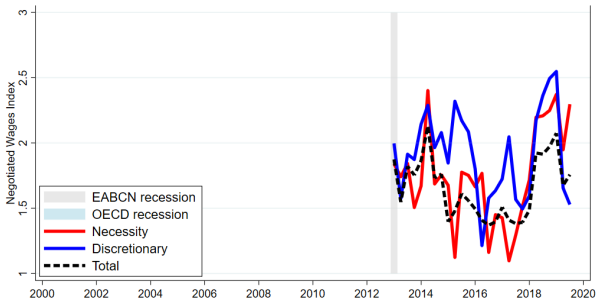
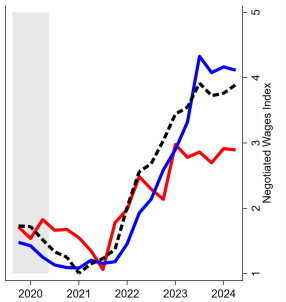
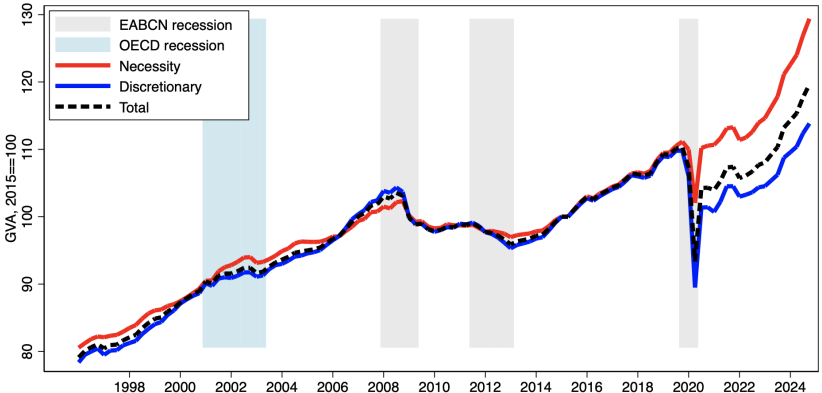
Negotiated Wages in Necessity and Discretionary Industries over the Business Cycle





Back

Gross Value Added in Necessity and Discretionary Industries over the Cycle



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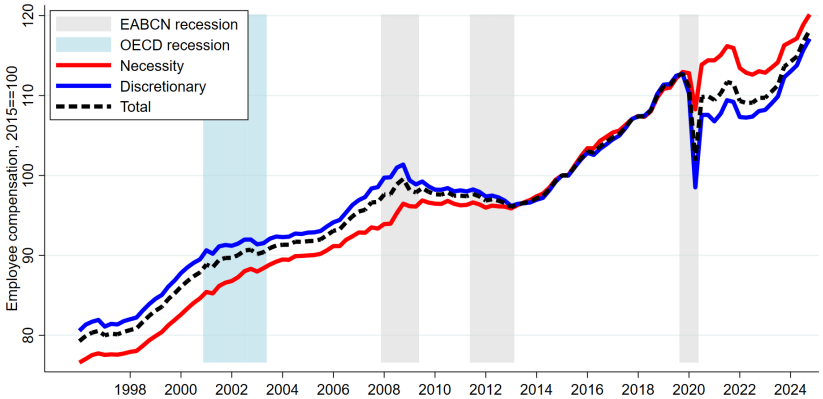
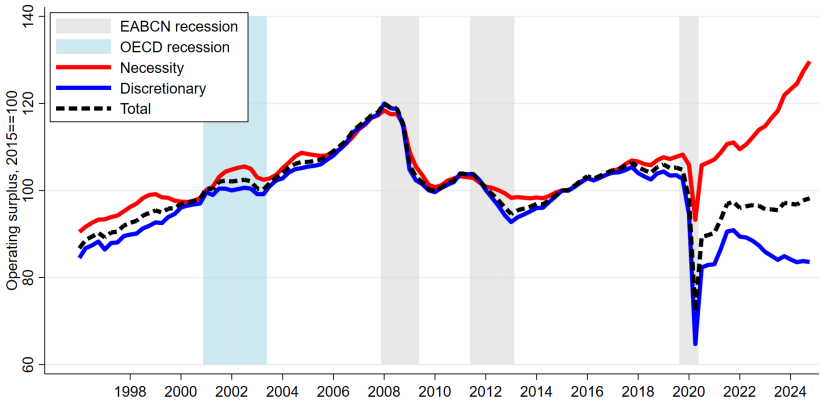
Compensation of Employees in Necessity and Discretionary Industries over the Cycle



Back

Operating Surplus in Necessity and Discretionary Industries over the Cycle

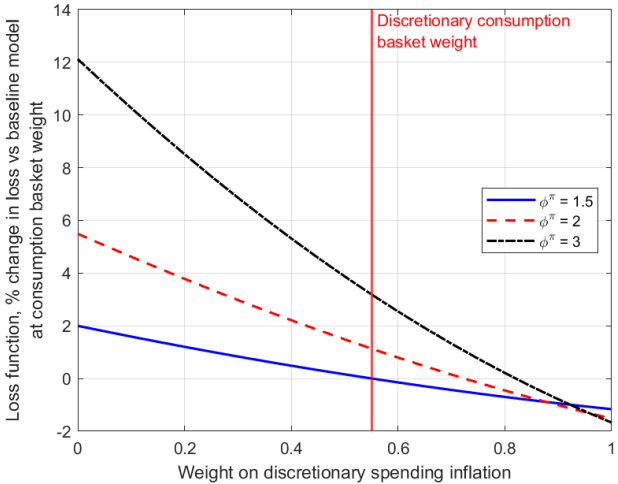


Back

Related Literature

- Non-homothetic preferences: Engel (1857), Aguiar and Bils (2015), Browning and Crossley (2000), Foellmi and Zweimüller (2008), Boppart (2014), Comin, Lashkari and Mestieri (2021), De Nardi (2004), Comin, Mestieri and Danieli (2020), Ait-Sahalia, Parker and Yogo (2004), Andreolli and Surico (2021), Clayton, Jaravel and Schaab (2018), Orchard (2022), Sonnervig (2022), Schaab and Tan (2023).
- Heterogeneity in spending: durables/non-durables (Barsky, House and Kimball (2007), Monacelli (2009), Sterk (2010), McKay and Wieland (2019), and Beraja and Wolf (2021)), flexible/sticky prices (Anand, Prasad and Zhang (2015)), quality (Jaimovich, Rebelo and Wong (2019))
- Heterogeneous households and monetary policy in GE: Bilbiie (2008), Bilbiie (2020), Debortoli and Galí (2017), Patterson (2023), Misra and Surico (2014), McKay, Nakamura and Steinsson (2016), Werning (2015), Auclert (2019), Kaplan, Moll and Violante (2018), Auclert, Rognlie and Straub (2018) and Cloyne andothers (2020).
- Optimal Monetary Policy: Acharya et al. (2023), Bilbiie (2024), Mckay and Wolf (2022), Bergman et al. (2024), and Olivi et al. (2025).
- Our paper: spending composition $\times$ worker composition in GE and implications for the optimal conduct of monetary policy.

A Stronger Interest Rate Response to Inflation may Backfire...



...this is the opposite prediction of the representative agent New-Keynesian model