

Macro Welfare Effects of Flexible Labor Contracts

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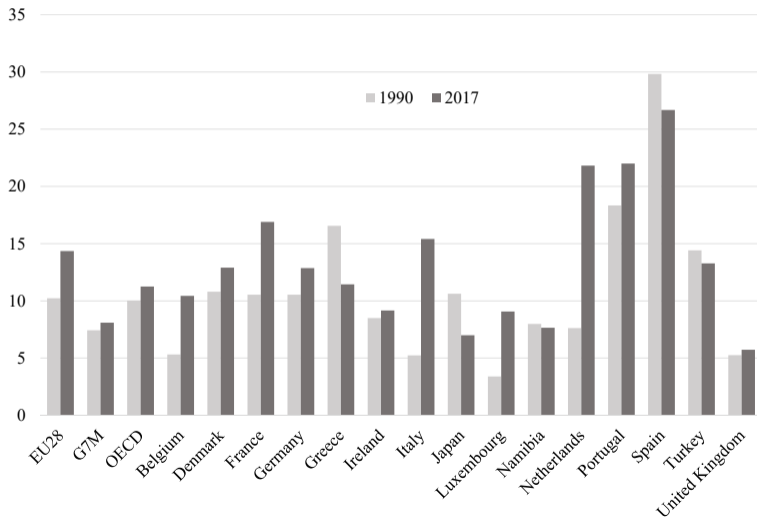
Flexible-Hour Labour Contracts

- The rise of *flexible-hour contracts* over the last decades across the globe.
 - E.g., in the case of the Netherlands: from 7% (1990) to 27% (2017).
 - Flexible-hour contracts: Contracts that do not fully pre-specify work hours, such as “on-call” contracts and “temporary” contracts with definite or indefinite length.

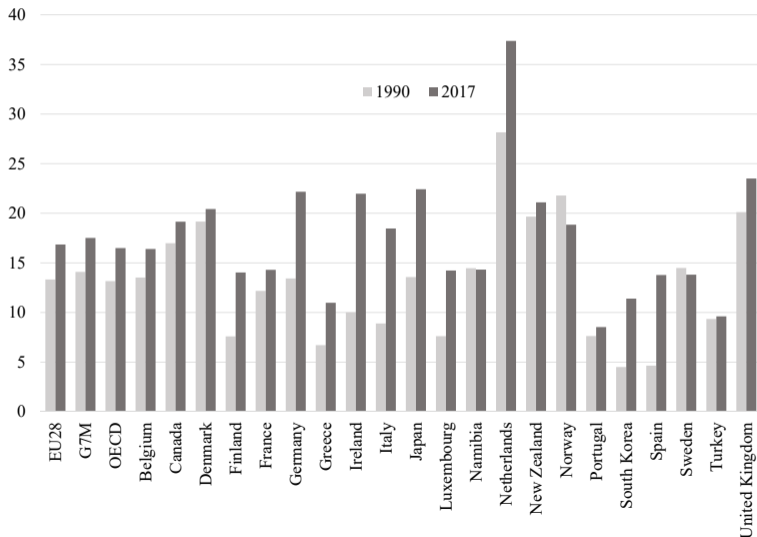
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- **Motivation to inquire about flexible-hour contracts and macro welfare:**
 1. Worker welfare: hour and wage volatility
 2. Firm (production) performance: flexibility in hour and wage margins
 - Important to understand wage profiles of flex-hour contracts to evaluate the trade-off between worker welfare and firm performance.

Cross-country: Flexible-hour Contracts (OECD, %)



Cross-country: Part-time Contracts (OECD, %)



Flexible Labor Contract Characteristics (Dutch Admin Data)

	Dependent variable:			
	St-dev hours (1)	Months-unemployed (2)	fixed hourly wage (3)	full hourly wage (4)
Flexible labor contracts	0.155*** (0.000280)	2.019*** (0.00206)	-0.0304*** (0.000163)	-0.0357*** (0.000180)
Mean (dependent variable)	0.198	0.258	2.918	3.040
Controls:				
Industry \times year FE	Yes	Yes	Yes	Yes
Worker FE	Yes	Yes	Yes	Yes
Polynomial term age	Yes	Yes	Yes	Yes
Months flexible contract	Yes	Yes	Yes	Yes
<i>Observations</i>	41,059,651	41,059,651	41,059,651	41,059,651
<i>R</i> ²	0.612	0.547	0.917	0.915

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Flexible Labor Contracts (Dutch Admin Data) - II

Anderson, Uras, and Vellekoop (2022):

- ① Substantial heterogeneity in nominal wage adjustments (importantly in downward wage rigidities) across *contract types*.
 - Contracts with flexible-hours exhibit substantially more flexible *hourly-wages* (compared to all other contracts).
- ② Presence of state-dependence of wages:
 - *Hourly wages* of flexible-hour contracts are more likely to reduce during a downturn (compared to all other contracts).

Flexible-hour contracts exhibit both hours and hourly-wage flexibility.

Flexible Labor Contracts and Macro Stability



Flexible Labor Markets and Workers' Welfare

- **Fact 1:** Flexible labor contracts have gained increasing popularity.
- **Fact 2:** They provide firms with multiple adjustment mechanisms - not only in hours-work but also in wage compensations (including hourly wages).
- **Fact 3:** Labor market flexibility as a factor of macroeconomic stability.
- **Trade-off:** more stable output overall vs. higher income volatility for a fraction of the economy (flexible workers).
- We model a general equilibrium framework to investigate this trade-off in the context of a monetary union model with wage and hour rigidities.

- We develop a small open economy DSGE model, capturing the stylized facts, with two-sectors (flex and rigid) in the labor market to:
 - ① understand **the welfare effects** of flexible contracts.
 - Is there an optimal level of flexible-labor contracts? Around 20%.

- We develop a small open economy DSGE model, capturing the stylized facts, with two-sectors (flex and rigid) in the labor market to:
 - ① understand **the welfare effects** of flexible contracts.
 - Is there an optimal level of flexible-labor contracts? Around 20%.
 - ② study the role of **wage flexibility** in the context of flexible contracts.
 - Is wage rigidity in the rigid sector more or less detrimental in the context of an economy with flexible labor contracts? Much more important.

- **Flexible labor contracts and wages:** Corvers et al., 2011; Drenik et al., 2020; Goldschmidt and Schmieder, 2017; Bjorklund et al., 2019; Dolado et al. 2019.
- **Nominal rigidities in a monetary union:** Farhi et al., 2014; Gali and Monacelli, 2016; Schmitt-Grohe and Uribe, 2016; Eijffinger et al., 2018.
- **Multisector DSGE models with nominal rigidities:** Coibion and Gorodnichenko, 2011; Carvalho and Nechio, 2016; Singh and Beetsma, 2018; Eijffinger et al. (2020); Carvalho et al. (2021).

Model

- A two-sector version of Gali-Monacelli (2016) small open economy DSGE model
- Representative agent (full insurance within households).
- Two-sectors with different labor market rigidities:
 - **Rigid sector (size η)**: rigid working-hours and sticky (Calvo) wages.
 - **Flexible sector (size $(1 - \eta)$)**: working-hours and wages are set optimally in each period.
 - Price rigidities in both sectors.
- Sectoral Production function:

$$Y_{s,t}(i) = A_t N_{s,t}(i)^{1-\alpha}$$

Small Open Economy DSGE Model

- Final producer combines products from both sectors:

$$Y_t = \iota Y_{fixed,t}^\eta Y_{flex,t}^{1-\eta}$$

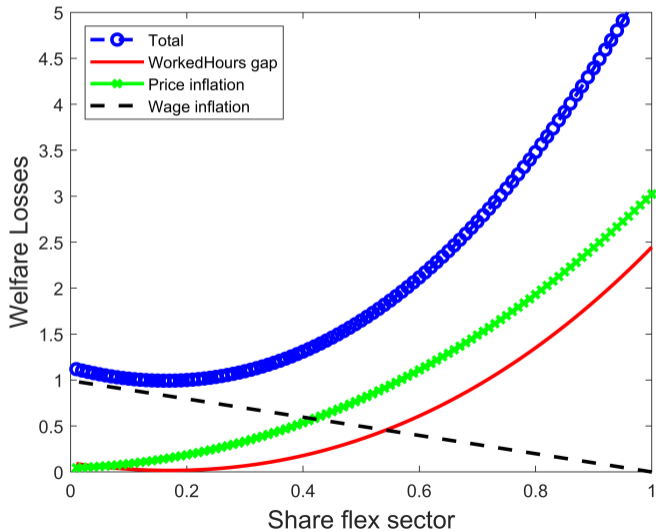
- We focus on a currency union regime.
- We focus on demand shocks (but results also extend to technology shocks).
- The welfare loss function for the two-sector model is

$$\hat{\mathbf{L}} \sim \left(\frac{1-v}{2} \right) \left[(1+\varphi) \text{var}(\hat{n}_t) + \left(\frac{\epsilon_p}{\lambda_p(1-\alpha)} \right) \text{var}(\pi_t^{\text{price}}) + \eta \left(\frac{\epsilon_w}{\lambda_w} \right) \text{var}(\pi_t^{\text{wage}}) \right].$$

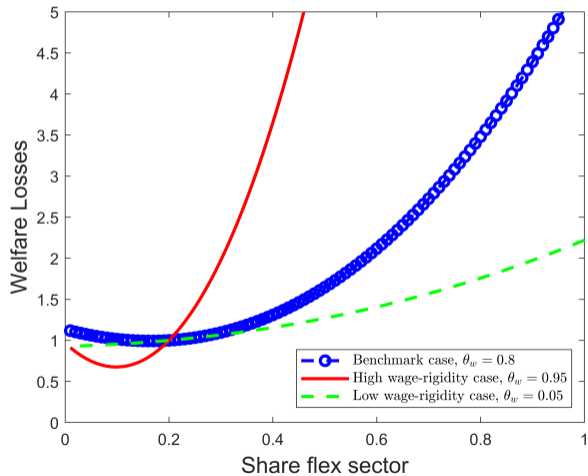
Calibration as the Dutch Economy

Parameter	Description	Value
β	Discount factor	0.99
φ	Curvature of labor disutility	2.2
α	Index of decreasing return to labor	0.26
ϵ_p	Elasticity of substitution (goods)	3.8
ϵ_w	Elasticity of substitution (labor)	3.8
θ_p	Calvo index of price rigidities	0.8
θ_w	Calvo index of wage rigidities	0.8
ν	Openness	0.3
η	Share of the flexible sector	0.2
ρ_a	Autocorrelation technology shocks	0.9

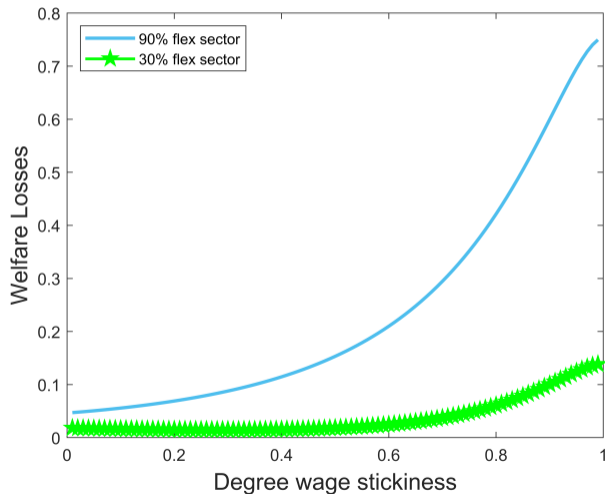
Non-Linear Relationship Between Flexibility and Welfare - I



Non-Linear Relationship Between Flexibility and Welfare - II



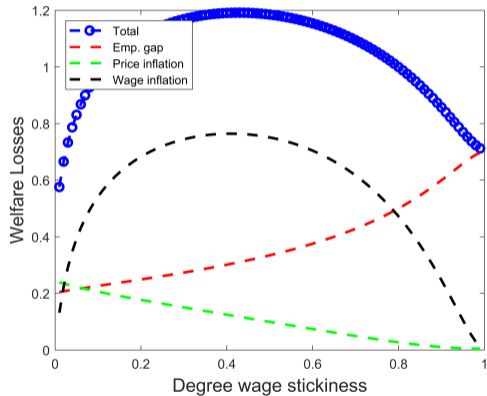
Non-Linear Relationship Between Flexibility and Welfare - III



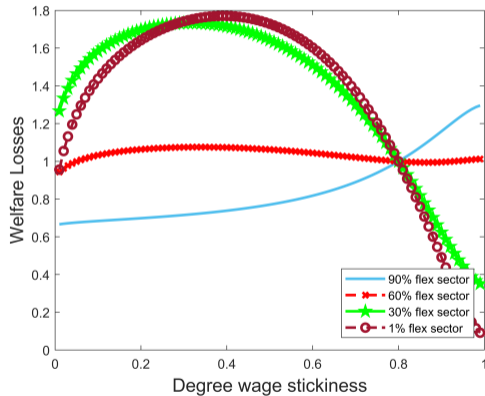
Intuition for Non-Linear Welfare Effects of Flex-Sector

- Large fluctuations in consumption (i.e., working hours gap), associated with a higher flexibility, are costly for households:
- Wage inflation losses decrease with a larger flex sector size, the losses associated with the volatility of working-hours and price inflation grow exponentially with the size of the flex sector.

Contractual Flexibility Makes Wage Rigidity in the Fixed Sector More Detrimental



(a) Galí and Monacelli (2016) version of the framework: One sector w/ rigid wages and flexible hours



(b) Benchmark two-sector model

- **Non-linear welfare effects of wage-rigidity in an MU (Gali-Monacelli):**

For a standard SOE, in the face of an adverse shock, a reduction in domestic wage leads to

1. ↑ exports through terms of trade depreciation (*competitiveness channel*),
2. ↑ employment (*endogenous interest policy channel*) - as long as there is an active monetary authority influencing the interest rates.

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If the Central Bank cannot take an action (SOE in MU), the labor demand and employment would not be affected by the initial wage reduction.

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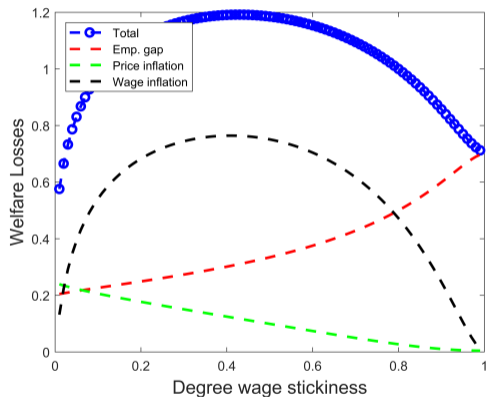
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- **In our framework Gali-Monacelli effect may not materialize:**

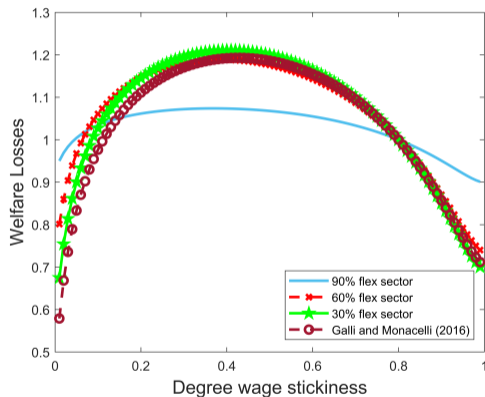
Wage flexibility in the fixed sector has a GE impact on hours in the flex sector:

- ① Higher wage flexibility in the fixed-sector lowers the marginal cost of firms in the fixed sector during a downturn and reduces prices of those firms in the event of an adverse shock.
- ② This channel in turn positively influences the working-hours in the flex sector.

Further insights in comparison to Gali-Monacelli - II

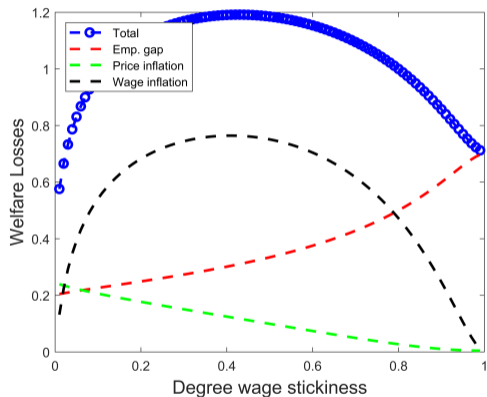


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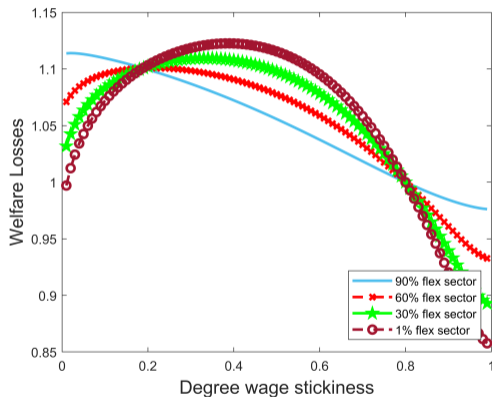


(b) Hours-work flexible in fixed sector

Further insights in comparison to Gali-Monacelli - III



(a) Gali and Monacelli (2016) version of the framework



(b) Hours-work fixed in both sectors

Conclusions

- Fluctuations in working-hours and wages are costly for the households.
- Optimal flex sector size of about 20% of the overall employment.
- Wage rigidity (calvo stickiness) is more detrimental in an economy with flexible labor contracts.