IMA 2024

The impact of unexpected inflationary shock in 2022 and 2023 on the welfare of families: The case of Slovakia

January 9, 2024

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Introduction

- Our aim is to answer the question: **„What are the distributive effects of inflationary shock on Slovak families?“**
- We look at **net changes in purchasing power** in 2022 and 2023 after the cushioning effects of government measures and the cushioning effects of economic adjustments
- We look at **changes due to the inflationary shock and at total y-o-y changes**
- We incorporate the effect of inflation into the **static microsimulation model** developed in our institution
- Our results represent an “upper bound” effect due to the assumption of no behavioral change

Modelling approach

Overview of modelling approach

Scenario without the inflationary shock	What we thought in summer 2021 about 2022 and 2023 *(June 2021 macroeconomic forecast)*
Scenario with the inflationary shock	What we know now about 2022 and 2023 *(February 2023 macroeconomic forecast)*

Overview of modelling approach

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Overview of modelling approach

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Scenario with the inflationary shock	What we know now about 2022 and 2023 *(February 2023 macroeconomic forecast)*	**Incorporation of price increase only *(without price cap)***	**The effect of economic adjustments**
		Incorporation of price increase & macroeconomic adjustments	
		Incorporation of price increase *(with price cap)* & macroeconomic adjustments & government measures related to the shock	**The effect of govern. measures**

Note: The order of scenarios matters. First macroeconomic adjustments and then government measures, as the eligibility for child credit depends on wages.

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The net effect

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Analytical approach combining the HBS data and microsimulation model SIMTASK

SILC 2019

data on HHs' income and demographic characteristics

adjusted to the analyzed year (recalibration of weights & indexation of financial values)

→ **SIMTASK**

Adjusted database & TB system rules & Parameters

HBS 2015

data on HHs' income, expenditures and demographic characteristics

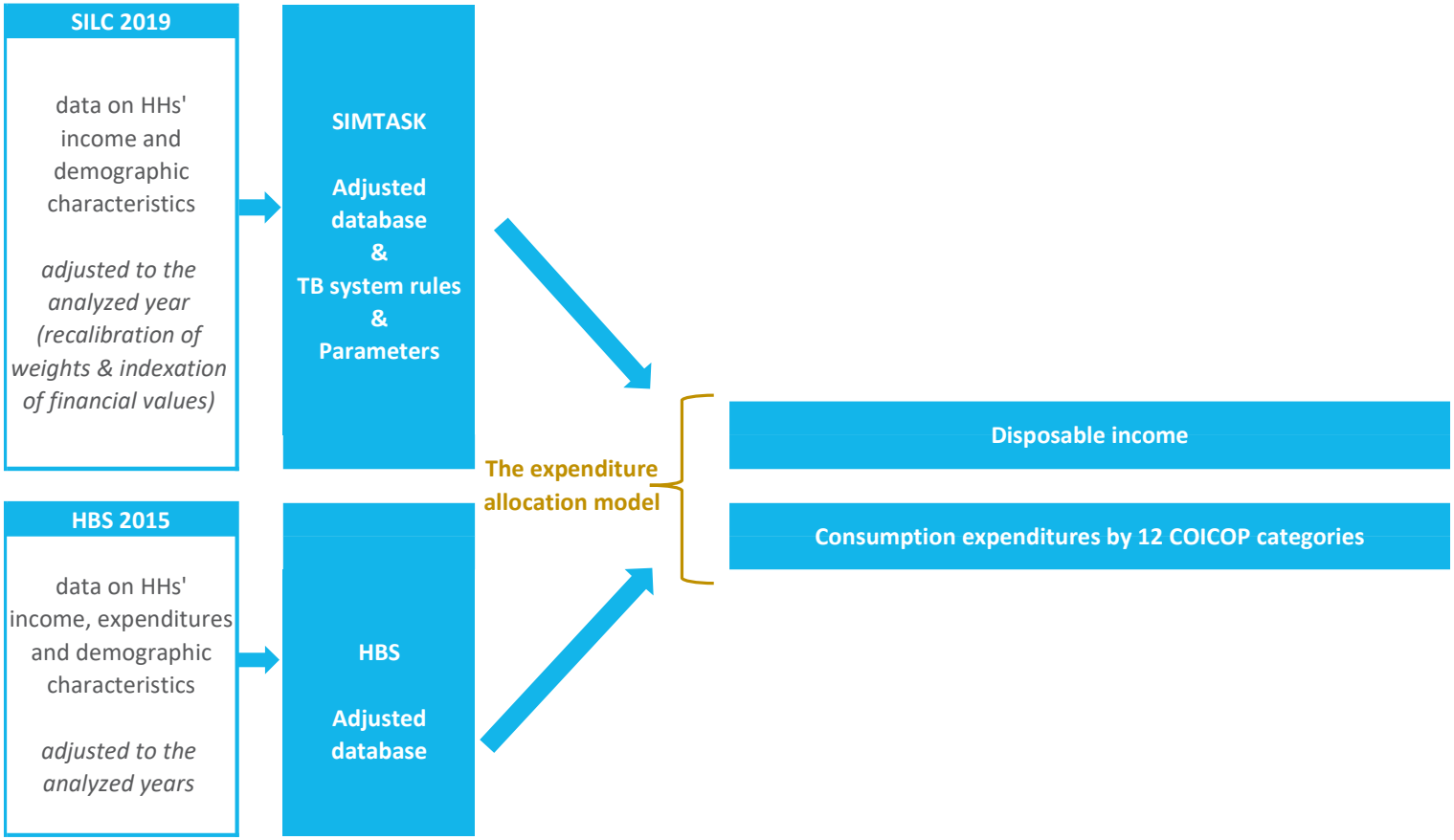
adjusted to the analyzed years

→ **HBS**

Adjusted database

**We assume there is no behavioural reaction of economic agents.*

Analytical approach combining the HBS data and microsimulation model SIMTASK



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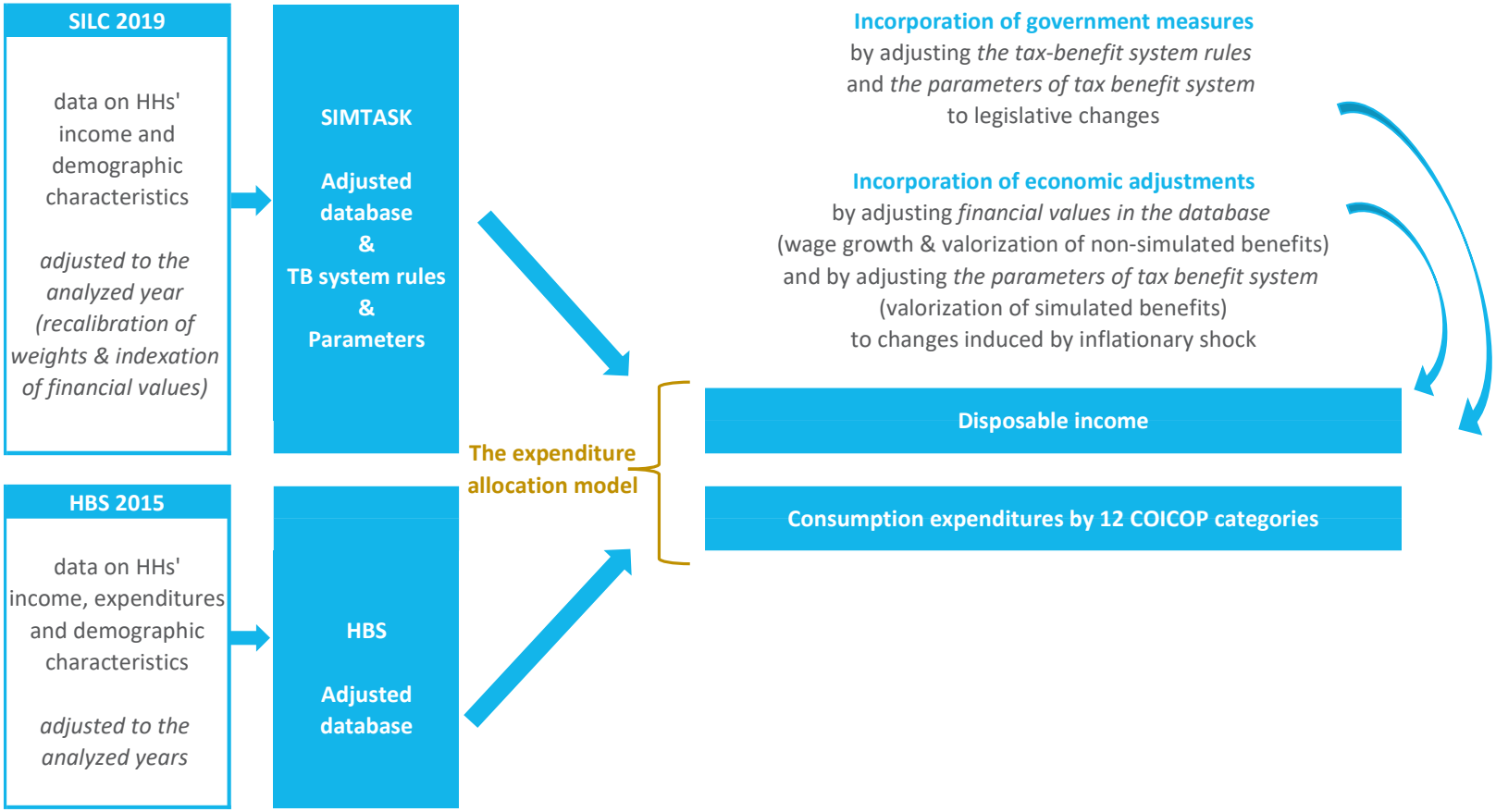

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SIMTASK

Adjusted database & TB system rules & Parameters

HBS

Adjusted database

The expenditure allocation model

Incorporation of government measures
by adjusting *the tax-benefit system rules* and *the parameters of tax benefit system* to legislative changes

Incorporation of economic adjustments
by adjusting *financial values in the database* (wage growth & valorization of non-simulated benefits) and by adjusting *the parameters of tax benefit system* (valorization of simulated benefits) to changes induced by inflationary shock

Disposable income

Consumption expenditures by 12 COICOP categories

Incorporation of exogenous inflationary shock
by increasing the expenditures (imputed into the SIMTASK model in the no-shock scenario*) by the inflationary shock in 12 COICOP categories

& divide the households' expenditures proportionally to disposable income of the families

**We assume there is no behavioural reaction of economic agents.*

Assumptions

Assumptions on inflation & inflation-related effects

Forecast		2022	2023	
Jun-21	Inflation rate *without the shock*	2.9	2.4	
Feb-23	Inflation rate *with the shock*	12.8	19.7	(9.8 with price cap)
Inflationary shock		**9.9**	**17.3**	**(7.4 with price cap)**
Jun-21	Wage growth *without the shock*	4.1	4.9	
Feb-23	Wage growth *with the shock*	8.1	10.5	
Inflation-induced wage growth		**4.0**	**5.6**	
Jun-21	Pensioners' inflation *without the shock*	1.3 *	3.0	
Feb-23	Pensioners' inflation *with the shock*	1.3	11.8	
Extra valorization of pensions		**0.0**	**8.8**	
Jun-21	Minimum subsistence level *without the shock*	1.5 *	2.9	
Feb-23	Minimum subsistence level *without the shock*	1.5	7.5	
Extra valorization of social transfers other than pensions		**0.0**	**4.6**	

** Value in 2021 is fixed the same for both forecasts*

Decomposition of headline inflation rates by COICOP categories

Non-uniform wage increase across income distribution

Government measures:
Related directly to the inflationary shock

- **Two anti-inflationary packages in 2022**
  - one-off benefits paid to vulnerable households (100-euro support)
- **The so-called 14th pension benefit in 2022**
- **Price cap on energy prices for households in 2023**
  - the government caps energy prices for households in 2023 via subsidies and a contract with the main electricity supplier
  - the measure holds electricity prices for households flat, while natural gas and heating prices will rise by 15 %
- **Advance indexation of pensions in 2023**
  - in July 2023 instead of January 2024 by 10.6 %
  - all types of pensions

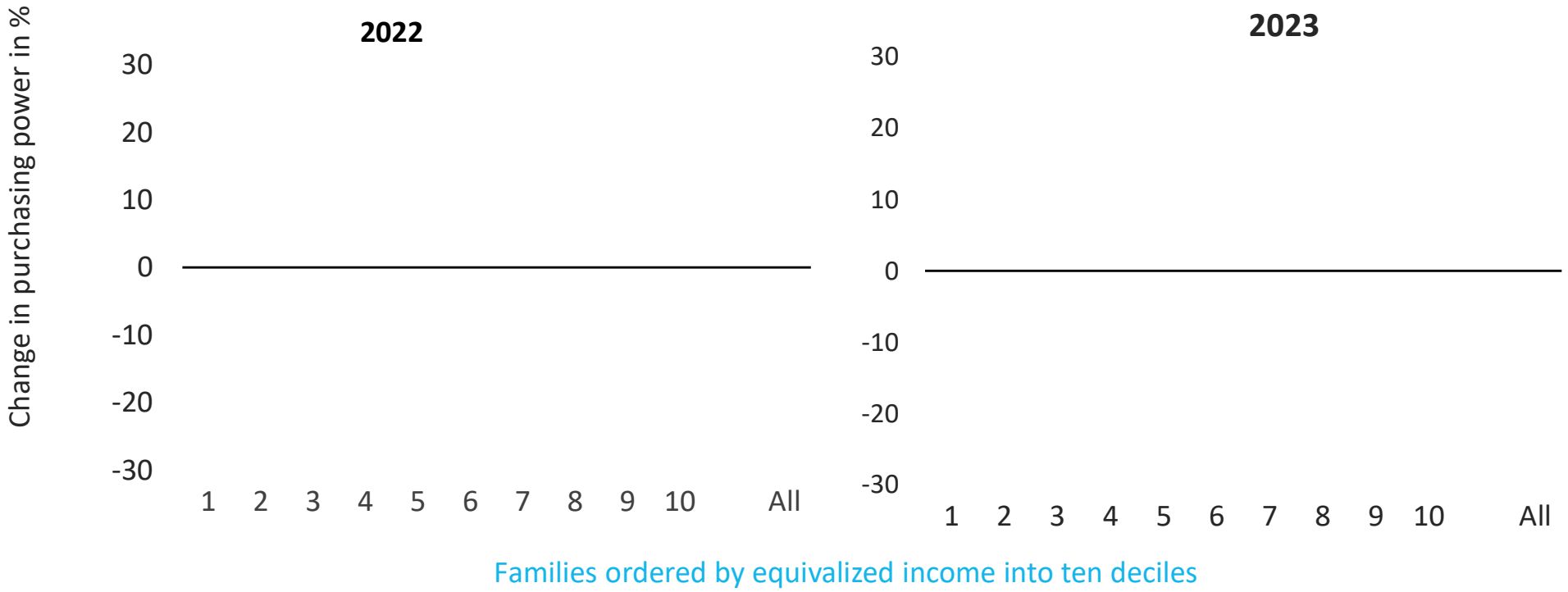
Government measures:
Unrelated to the inflationary shock

- **Income support measures targeted at families with children in 2022 and 2023**
  - a permanent increase of the child tax credit
  - a permanent increase of child benefit

- **A COVID vaccination incentive bonus in 2022**
  - to those citizens who got vaccinated against COVID-19 disease and were older than 60 years

The results:
The effect of the inflationary shock

The effect of the inflationary shock: income deciles



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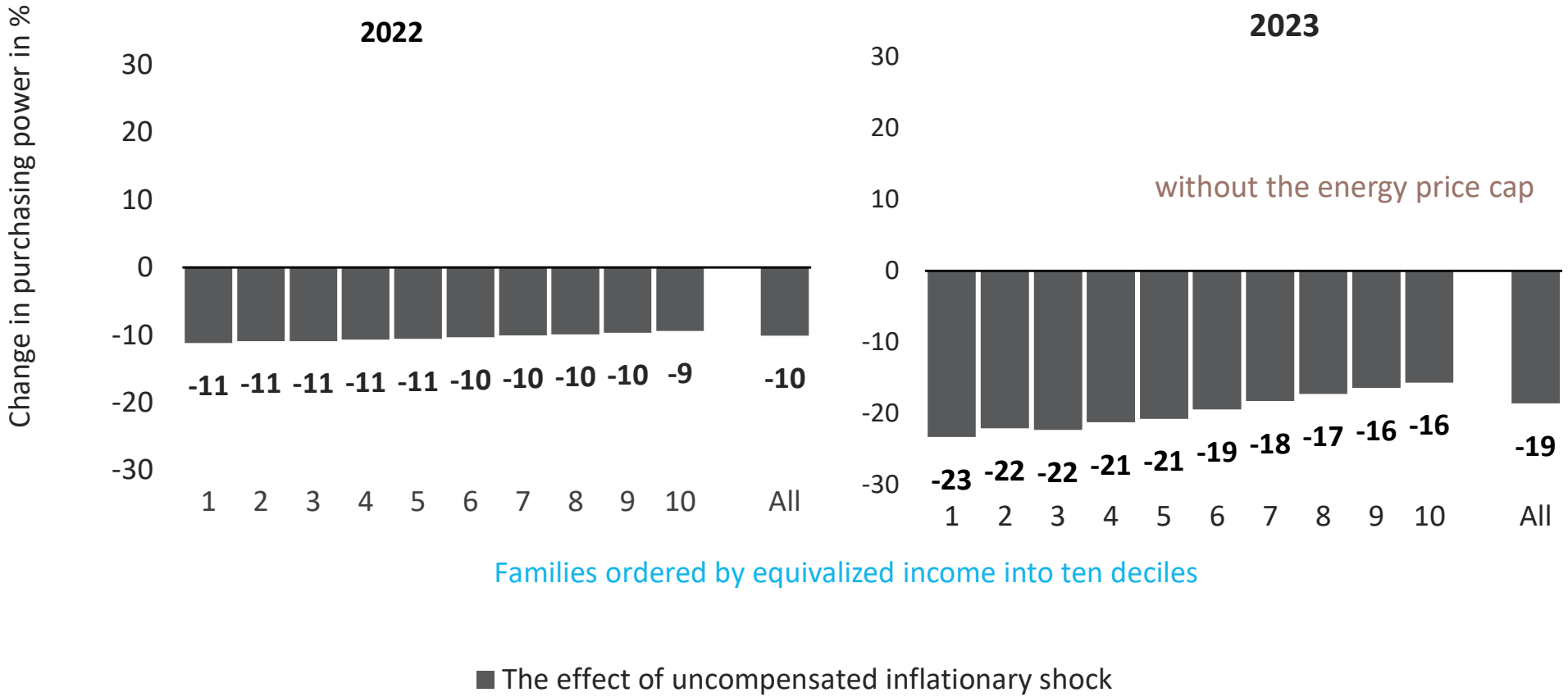

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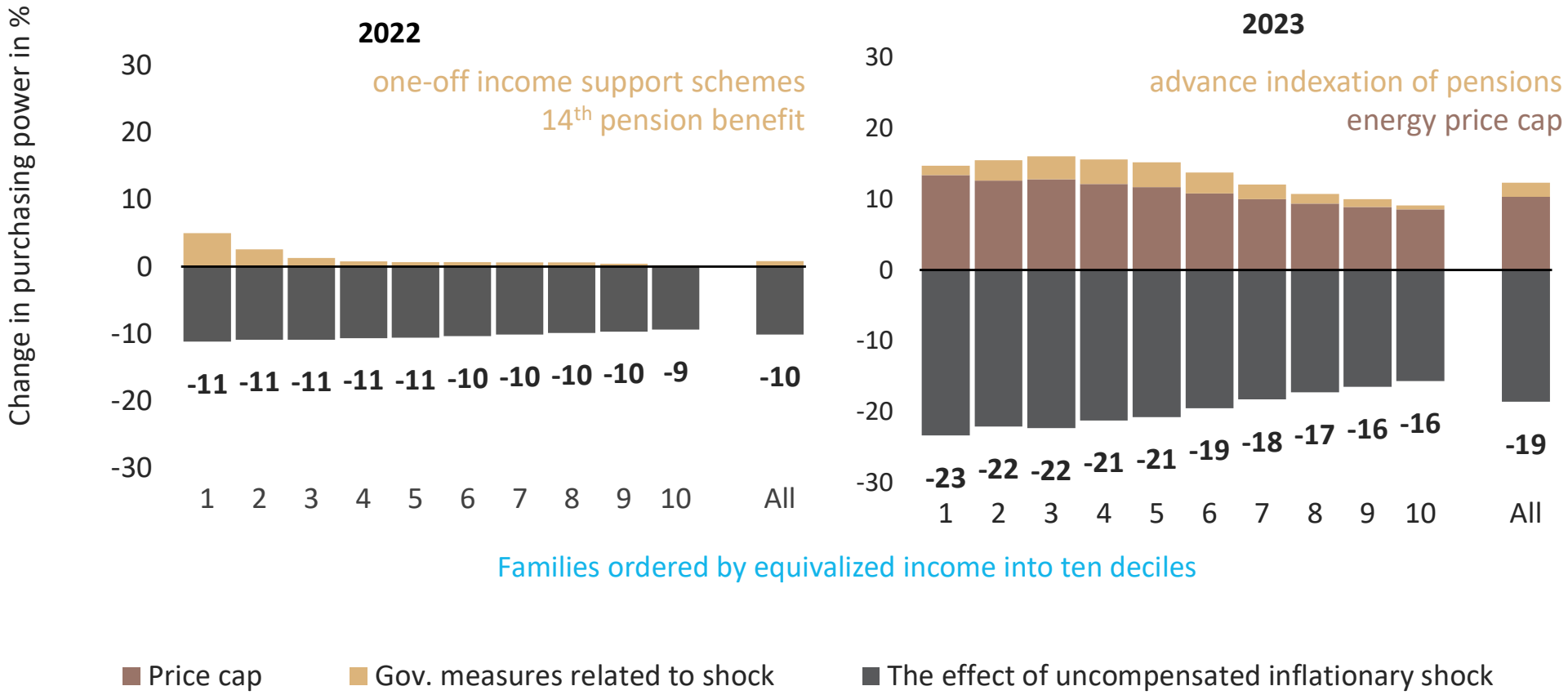

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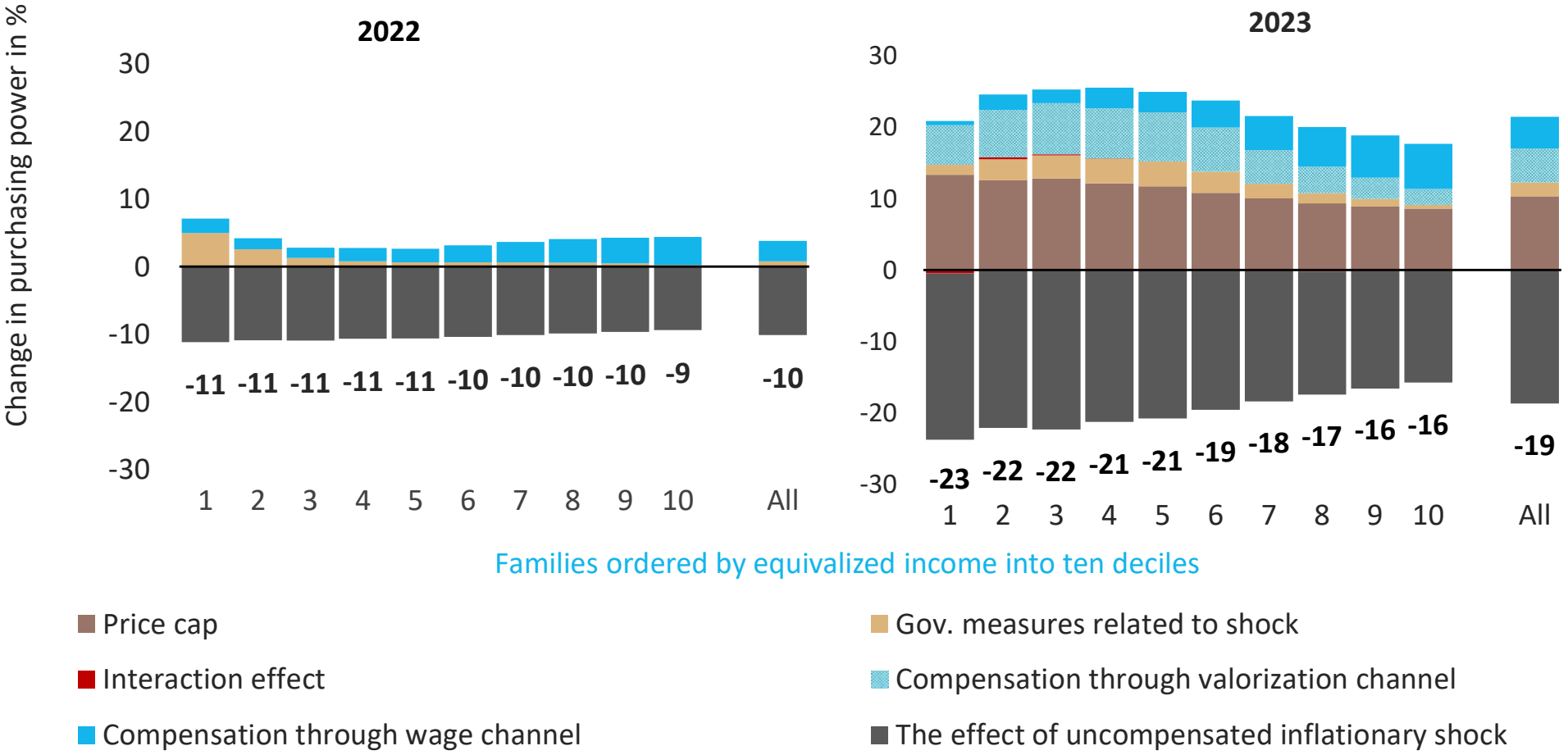

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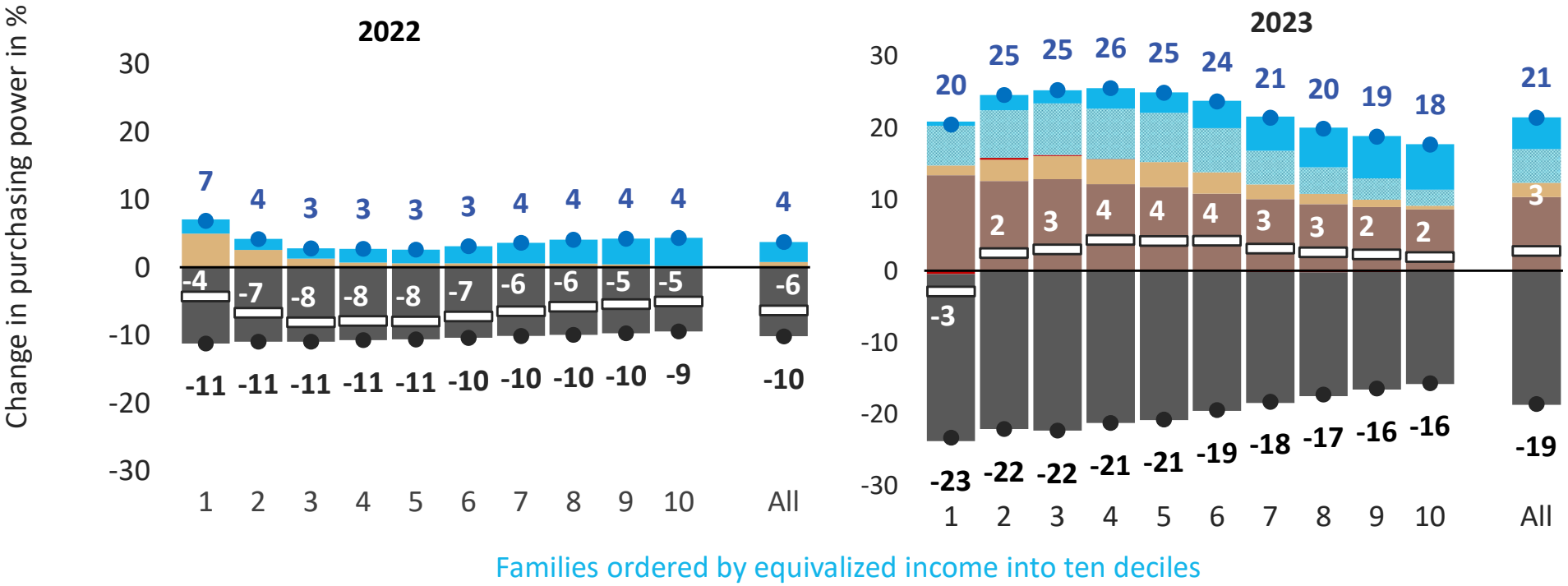
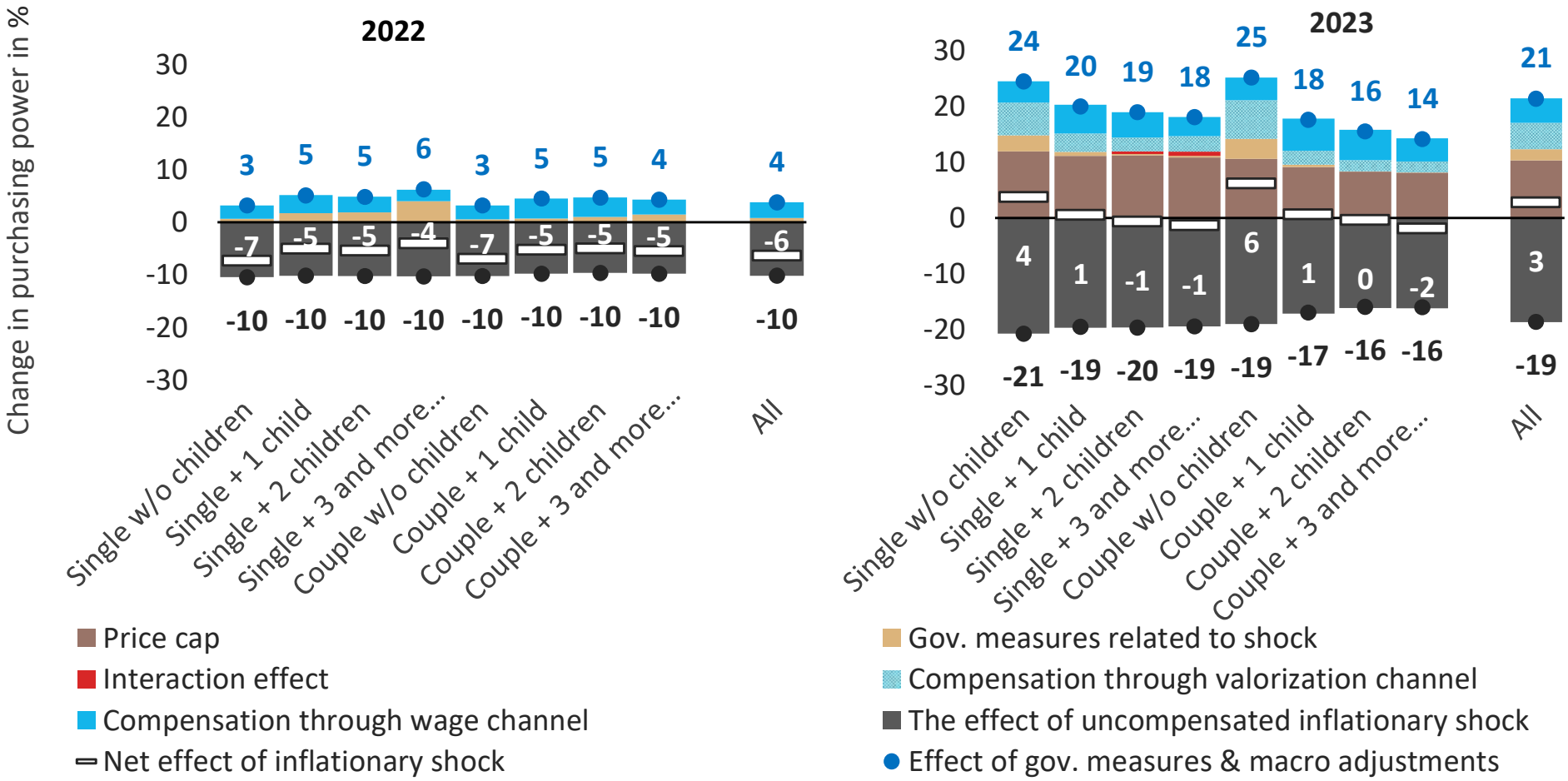


- Price cap
- Interaction effect
- Compensation through wage channel
- Net effect of inflationary shock
- Gov. measures related to shock
- Compensation through valorization channel
- The effect of uncompensated inflationary shock
- Effect of gov. measures & macro adjustments

The effect of the inflationary shock: family types



Conclusions

Interpretation of the results on the impact of the price shock

- An “upper bound” effect due to the assumption of no behavioral change
- The results are dependent on the considered set of anti-inflationary policies

Under given assumptions we conclude

- The net effect of price shock, after compensations by government measures and economic adjustments, led to a drop in purchasing power in 2022 for an average family and to an increase in 2023. Which is mainly due to the lag in automatic indexation mechanism for social benefits.

Beyond presented results:

- When considering two-year horizon, purchasing power dropped for all analyzed family categories. Thus, inflation-related compensations were not sufficient to fully compensate for the price shock.
- The generous permanent pro-family measures, which we consider unrelated to price shock significantly contributed to the YoY increase in purchasing power of families with children in 2023.

Thank you for your attention.

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