



# Distributional and labour market effects of EU competition policy – A general equilibrium analysis

Adriaan Dierx, Fabienne Ilzkovitz, Beatrice Pataracchia,  
Marco Ratto, Anna Thum-Thysen, Janos Varga  
European Commission\*

Global Forum on Competition  
Session I – "Does Competition Kill or Create Jobs"  
29-30 October 2015

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# **Distributional and labour market effects of EU competition policy: A general equilibrium analysis**

- I. Motivation
- II. Analytical Framework
- III. The model
- IV. Main results
- V. Further research

# I. Motivation

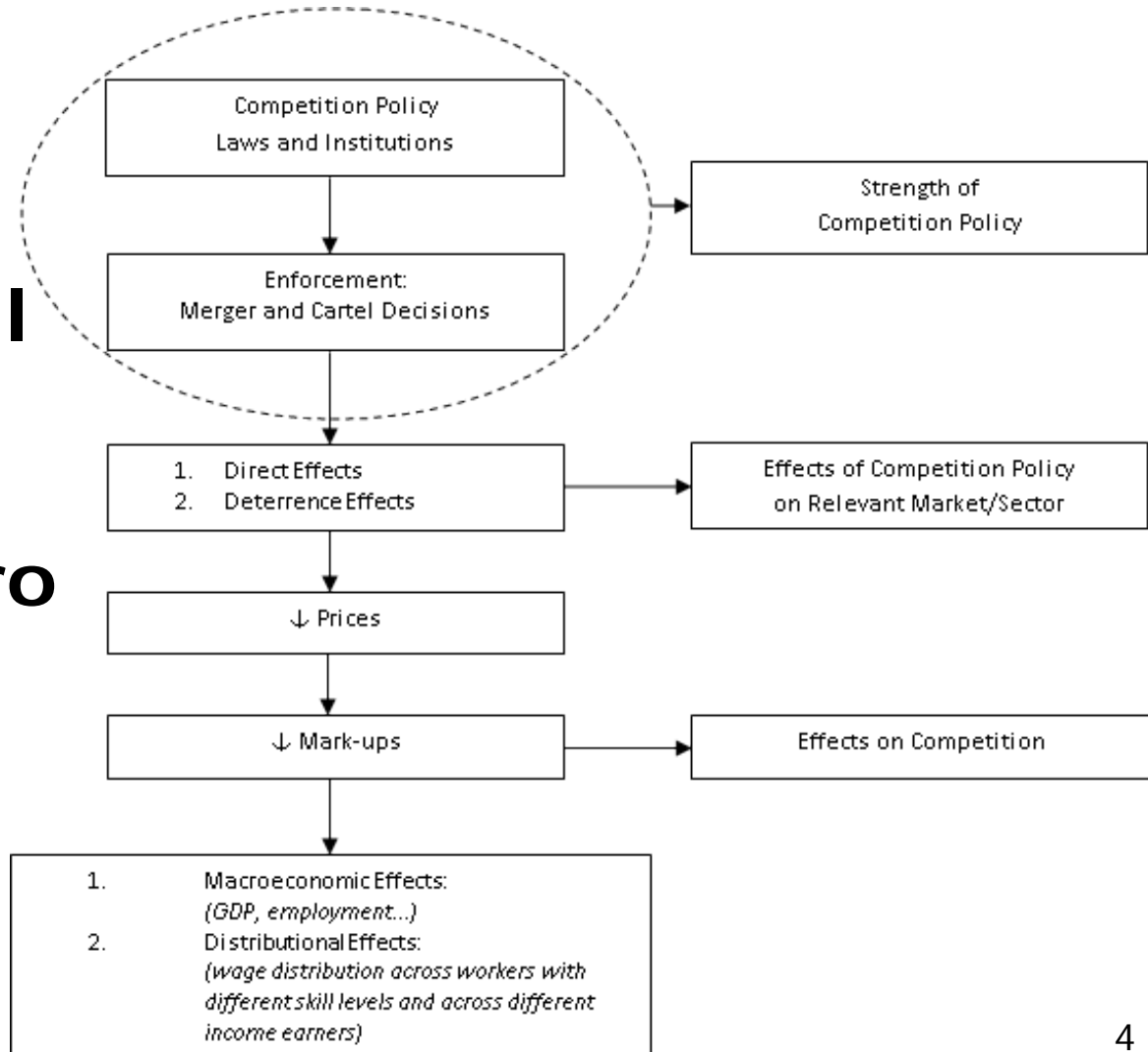
- Increased skepticism about benefits of competition policy
- Great recession reinforced the need to assess the effects of competition policy not only on growth but also on **inequality** and **employment**



European Commission

# II. Analytical framework

## i. Micro-macro link





## ii. Measurement of customer savings\*

Competition policy intervention	Cartel prohibition	Merger decision
<b>Affected turnover</b>	Turnover of cartel members	Size of relevant market
<b>Overcharges</b>	<b>10-15%</b>	1- <b>3</b> -5%
<b>Duration</b>	1/ <b>3</b> /6 years depending on the stability of cartel	2/ <b>3</b> /5 years depending on entry barriers

\* Baseline scenario in bold

### iii. Measurement of deterrent effects

#### Surveys and interviews (2005-2011)

- Mergers → Deterred harm / direct customer savings  $\approx$  6-17
- Cartels → Deterred harm / direct customer savings  $\approx$  10-30
- Mergers are more likely to be abandoned or modified following a recent inquiry in the sector

#### Modelling assumptions

- Deterrent effects extend from affected market to subsector defined at the NACE 4-digit level
- Upper threshold of 15 is applied to merger decisions
- Upper threshold of 30 is applied to cartel decisions

## iv. Mark-up shock applied to the model

- Database of EU merger and cartel decisions provides information on overcharges, their duration and the size of the affected market in 2012, 2013 and 2014 → allows calculation of direct mark-up shock in 2014
- Information on size of deterrent effects is used to calculate a total **mark-up decline of 0.8 pp**, i.e. a reduction of the mark-up from 13% to 12.2%
- Size of shock is similar to that used in studies aimed at assessing the impact of competition friendly structural reforms in the EU (1.5 pp)

## III. The model

- 2 region DSGE model
- 2 types of households
  - low skilled, liquidity constrained
  - high-skilled, non-constrained
- Product market: monopolistic competition with firms charging a mark-up over marginal costs
- Monetary and fiscal authority
- Forward-looking utility and profit maximization





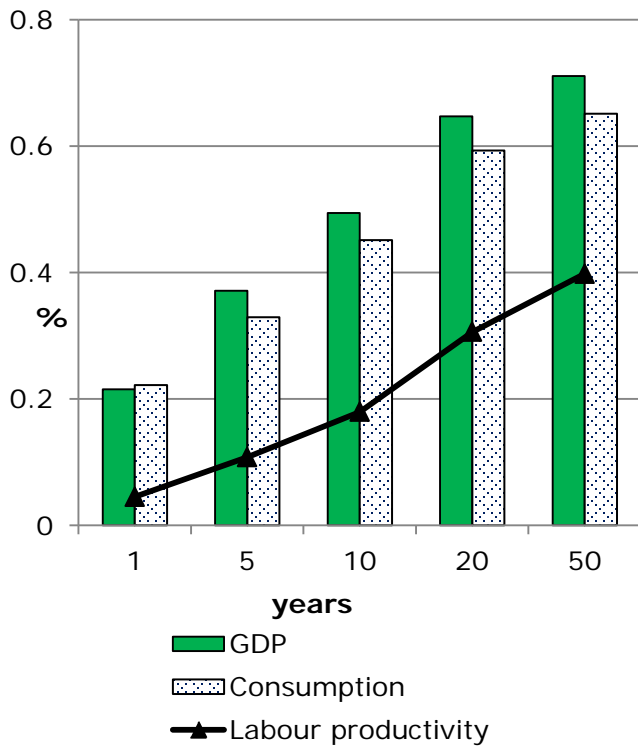
## Modelling distributional effects

- Low-skilled, liquidity constrained households:
  - Income from wages, transfers and benefits only
  - Consume their income every period → can increase consumption due to declining prices and increasing wage income
  
- High-skilled, non-constrained households:
  - Additional income from capital ownership and the financial market
  - Their income can decrease as lower mark-ups lead to lower profits

## Modelling labour market effects

- Labour supply:
  - Trade unions act as an intermediary between households and firms
  - Wage levels for both low-skilled and high-skilled workers are set by trade unions in monopolistically competitive markets
  - Utility maximisation by households given the set wage level determines the labour supply
- Labour demand:
  - Cost minimisation of firms given the set wage level determines labour demand for both low-skilled and high-skilled workers

# Macroeconomic and distributional effects



Note: deviation from no-shock scenario



More intense competition increases GDP, consumption and labour productivity.

**Competition policy is more beneficial for the low-skilled, constrained households in terms of disposable income and consumption.**

**Main income channel:** only the high-skilled, financially unconstrained households bear the consequence of lower profits as prices decline!



## Labour market effects (I)

- More intense competition has a positive effect both on:
  - Labour demand (due to the increased demand for products associated with lower prices and increased incomes);
  - Labour supply (due to the higher real wages)
- Employment increases for both skill groups
- Unemployment benefit spending declines

**Competition policy is beneficial for employment and reduces benefit payments**



## Labour market effects (II)

$\Delta$ ( pp) after n years					
Baseline scenario	1	5	10	20	50
Employment	0.17	0.26	0.31	0.34	0.31

- Positive employment effect both in the short run and in the long run
- In practice, however, competition policy decisions may lead to lay-offs in the 'very-short' run
- Labour market adjustment would mitigate this 'very-short' run effect

## V. Further research

- Expand sensitivity analysis
  - Increase length of time series beyond 2012-2014
  - Check the validity of assumptions on overcharges and deterrent effects
- Consider differential effects of competition policy decisions affecting different sectors
- Improve model specifications:
  - Introduce sector sensitivity to distributional effects (e.g. by further exploiting skill-heterogeneity)
  - Add different wage bargaining schemes module (efficient bargaining vs. right to manage)

*Thank you for your attention.*

## Mark-up shock applied to the model

Definition of mark-up:  $P = (1 + MUP)C$

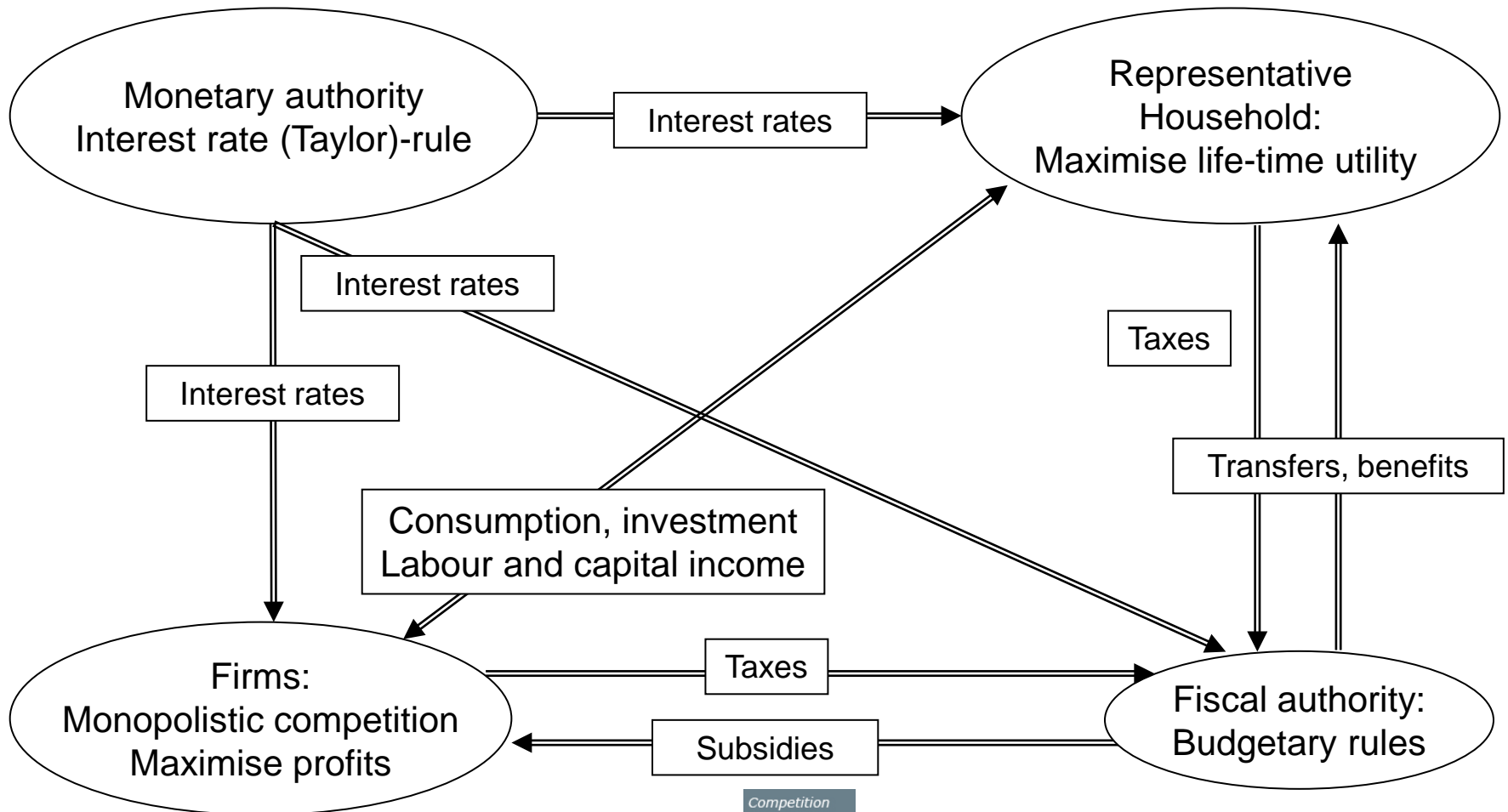
Can be written as:  $\frac{\Delta P}{P} = \frac{\Delta(1+MUP)}{(1+MUP)} + \frac{\Delta C}{C}$

Assume  $\frac{\Delta C}{C} = 0$  and  $\Delta(1 + MUP) \approx \Delta MUP$  :

$$\frac{\Delta P}{P} = \frac{\Delta MUP}{(1+MUP)} \Leftrightarrow \Delta MUP = \frac{\Delta P}{P} (1 + MUP)$$



# QUEST3 models: micro founded, Dynamic Stochastic GE model



# Robustness of GDP impact

Use alternative assumptions on overcharges and deterrent effects

Scenario	Merger overcharge	Cartel overcharge	Sector spill-over	Merger deterrence threshold	Cartel deterrence threshold	GDP effect after five years
Baseline	3%	10%	Yes	15x	30x	+0.37%
Lower bound overcharge	1%	10%	Yes	15x	30x	+0.35%
Upper bound overcharge	5%	20%	Yes	15x	30x	+0.73%
Lower bound deterrence threshold	3%	10%	Yes	5x	10x	+0.13%
Literature based deterrence	3%	10%	No	15x	30x	+0.38%
No deterrence threshold	3%	10%	Yes	No threshold	No threshold	+0.98%