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Competition as means for private sector development

The case of the Netherlands

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Impact assessment

- Calculations of impact of economic policy is a long standing tradition in the Netherlands
- We try to calculate all kinds of impact
- So also in the Netherlands Authority for Consumers and Markets
- Impact analysis was the subject of congress a year ago to celebrate 10 years of Office of CE
- I will concentrate on the impact on productivity and competition questions

Impact cartels on productivity growth

- Limited number of studies
- Levenstein en Suslow (2006): "*perhaps the least studied, but most important issues are the effect cartels have on investment and productivity*"
- Most studies show positive impact of competition on growth
- Still e.g. Baumol thinks that cooperation especially in high tech industries may reduce risk and are not always bad for competition
- The relation competition and productivity runs via innovation.
- Inverted U shaped relationship between competition and innovation

Cartels active 1980-1998

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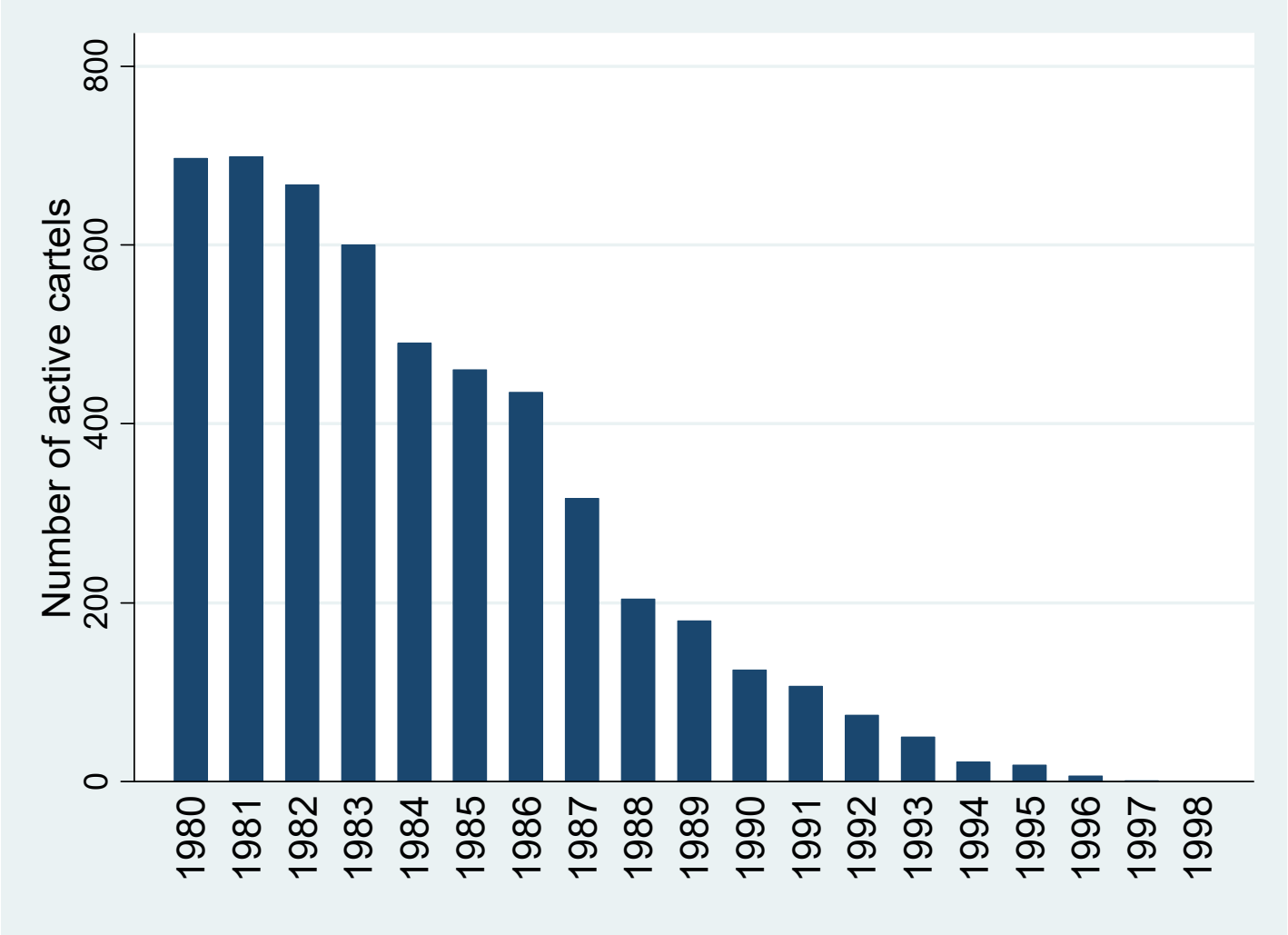

Cartels entry 1980-1998

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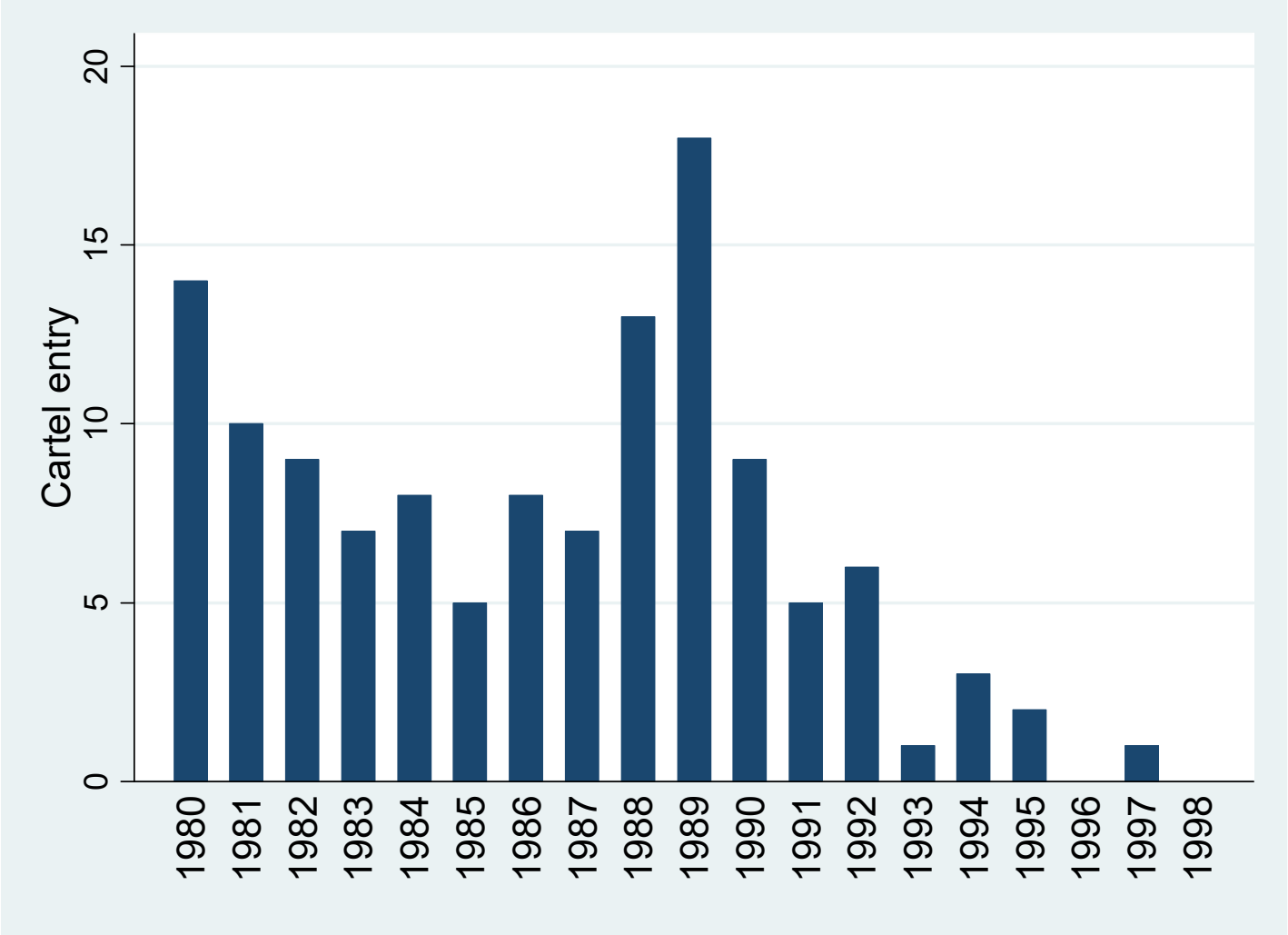

Cartels exit 1980-1998

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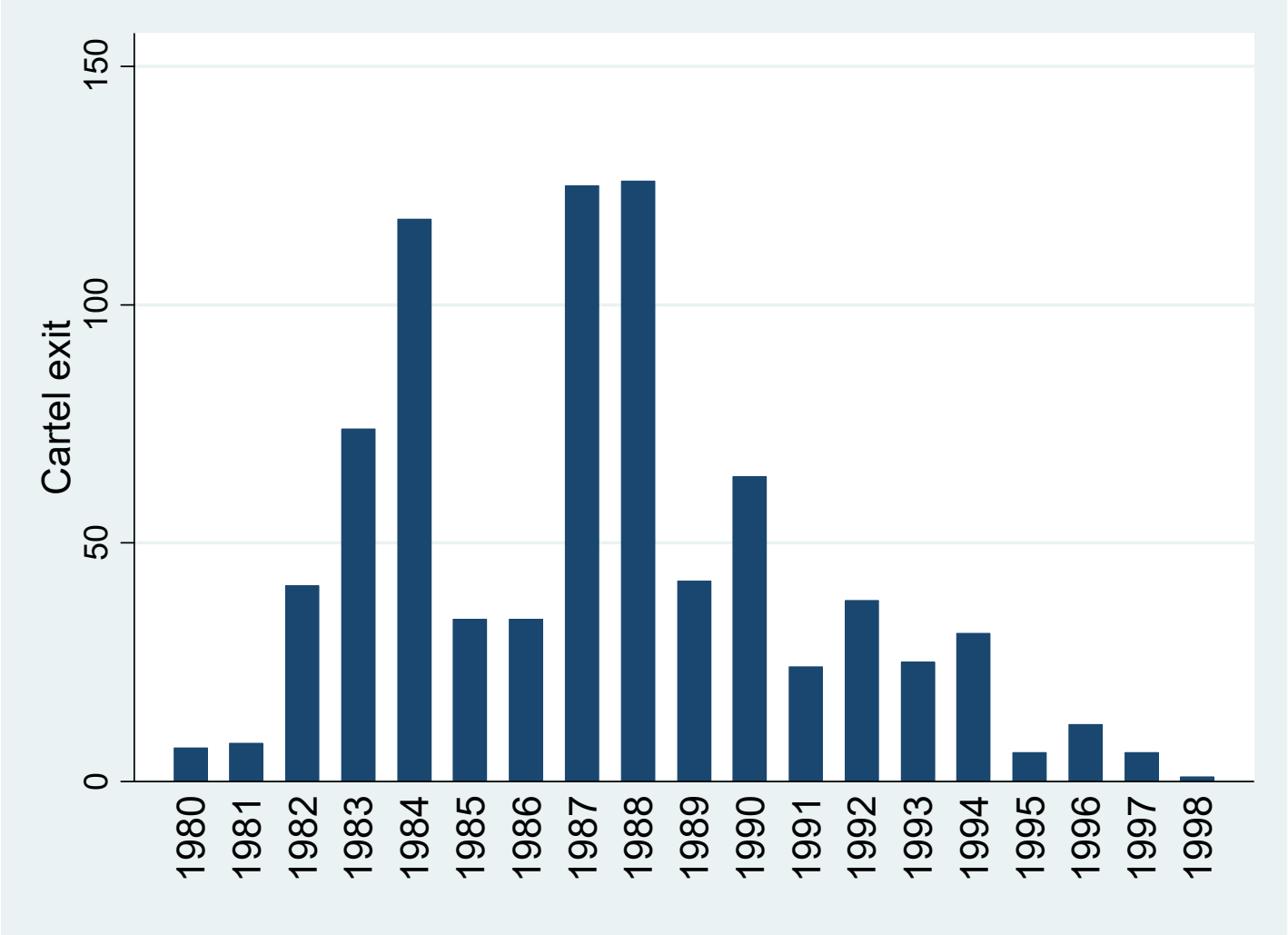

Specification estimated

- TFP growth 1982-1998
- Calculations for total economy and for manufacturing and non-manufacturing
- $\Delta lnTFP_{it} = \beta_0 + \beta_1 (technology\ gap_{it-1}) + \beta_2 (\Delta lnTFPLeader_{it}) + \beta_3 (human\ capital_{it}) + \beta_4 (cartel\ entry_{it}) + \beta_5 (cartel\ exit_{it}) + \beta_5 (cartel\ presence_{it}) + industry\ fixed\ effects_i + time\ dummies_t$

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Results (1) total (2) manufacturing and non manufacturing (3) extra presence dummies

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ΔlnTFP	(1)	(2)	(3)
Technology gap	.04***		
Technology gap manufacturing		.05***	.05***
Technology gap non- manufacturing		.02**	.02**
ΔlnTFPLeader	.06		
ΔlnTFPLeader manufacturing		.01	+.00
ΔlnTFPLeader non- manufacturing		.20	.20
Human capital	+.00	+.00	+.00
Dum cartel entry (1= entry; 0 ≠ entry)	-.00	-.01	-.01
Dum cartel exit (1= exit; 0 ≠ exit)	+.00	+ .00	+.00
Dum cartel presence (1= presence; 0 ≠ presence)	-.02**	-.02***	
Dum cartel presence (1= presence; 0 ≠ presence) manufacturing			-.03**
Dum cartel presence (1= presence; 0 ≠ presence) non-manufacturing			-.02**
R^2 within	0.0987	0.1122	0.1129
# observations	459	459	459
# groups	27	27	27
F	14.84	74.79	70.79
Prob > F	0,000	0,000	0,000

Research by Petit, Kemp and Van Sinderen

- Entry of cartel negative impact on TFP-growth but not significant
- Exit of cartel positive impact, but very small
- Cartel presence has negative impact and is significant
- Impact between -0.02 and -0.03
- So a cartel had between 2 and 3 percent negative impact on TFP growth in this period

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Labour productivity: impact of competition authorities

- Strong evidence for a positive impact of competition on total factor productivity (Van der Wiel, 2010)
- Effect of different variables on the labour productivity is estimated by Donselaar (2011)
- Addition: indicator for competition policy based on the Global Competition Review (GCR)
- The coefficients represent percentage changes

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Labour productivity estimation 1970-2010	Original result	Estimated equation
C(1) Constant	0.03***	-0.075*
C(2) Average length of education	0.40***	0.376***
C(3) Labour market participation	-0.43***	-0.523***
C(4) No. of worked hours per employed person	-0.53***	-0.710***
C(5) Domestic public and private R&D capital	0.11***	0.123***
C(6) Weight of the private R&D capital	0.60***	0.656***
C(7) Interaction domestic R&D capital with domestic in worldly R&D capital	0.65***	0.784***
C(10) Foreign public and private R&D capital	0.15***	0.091**
C(18) Catching-up variable	-0.04***	-0.048***
C(20) Share of (medium)high-tech sectors	0.16***	0.164***
C(21) Norway-specific variable	0.93***	0.846***
C(23) Openness of the economy	0.07***	0.019
C(25) Net capital income quota	0.16**	0.088*
C(27) State of the economy	0.69***	1.057***
C(28) Weight of the current year within the state of the economy	0.51***	0.305**
C(29) Dummy for West-Germany	0.03**	0.056***
C(55) GCR	-	**0.022****
C(56) Pre-GCR period	-	**0.078****
R^2	0.9872	0.9870
Period	1970-2006	1970-2010
Country dummy's included	Yes	Yes
No. of countries	20	20
No. of observations	740	820
Standard errors	HAC (Newey-West)	HAC (Newey-West)

Labour productivity

- Pre-GCR period: average effect (all countries have equal weight) is equal to 0.078 (dummy)
- This is roughly equal to the effect of the average GCR score (3.5 * 0.022 = 0.077)
- Compared to the pre-GCR period, countries with scores below 3.5 do worse, countries above 3.5 do better on productivity

GCR score	Effect
Pre-GCR period	0.078
1	0.022*1 – 0.078 = -0.056
2	0.022*2 – 0.078 = -0.034
3	0.022*3 – 0.078 = -0.012
4	0.022*4 – 0.078 = 0.010
5	0.022*5 – 0.078 = 0.032

Labour productivity

- An average score (3.5 in the dataset) gives a more or less neutral effect on labour productivity
- A *below* average score has a *negative* impact on labour productivity, whereas an *above* average score has a *positive* impact on labour productivity
- Conclusion: the good performance of competition authorities has a significant impact on labour productivity

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Basic theory

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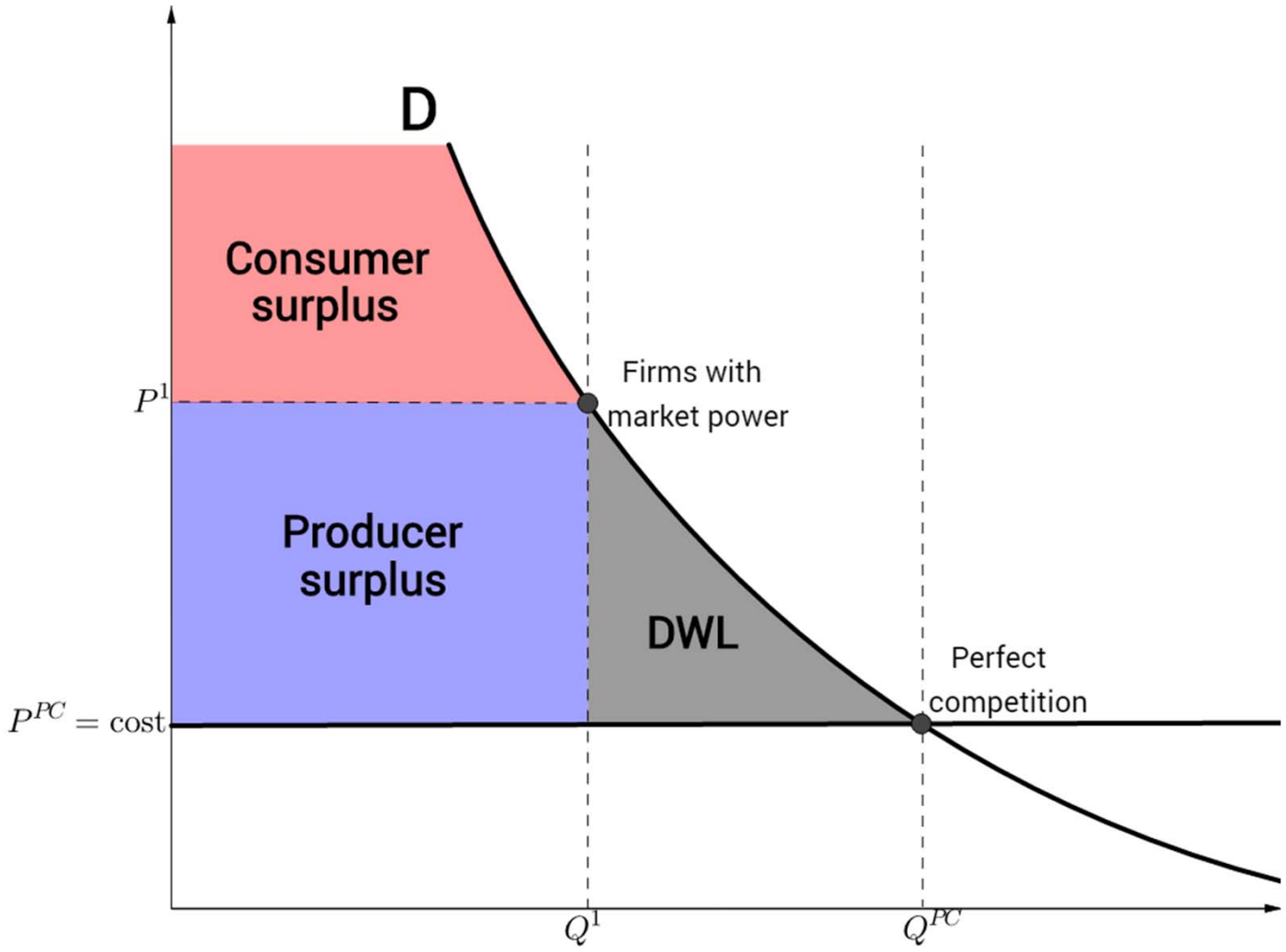

Method outcome calculations competition policy

- Merger control
  - Blocked mergers
  - Mergers with Remedies
  - Stopped by parties after competition problems were noticed

- Cartels
- Misuse of Economic power
- Deals with parties

- Effects on prices
  - Merger 3% ; market; 3 years
  - Cartels 10% ; turnover involved; 3 years
  - Misuse dominant position 5%; turnover involved; 3 years
- Not included
  - Allocation effects
  - Anticipation effects
  - Dynamic effects
  - Type I and II errors

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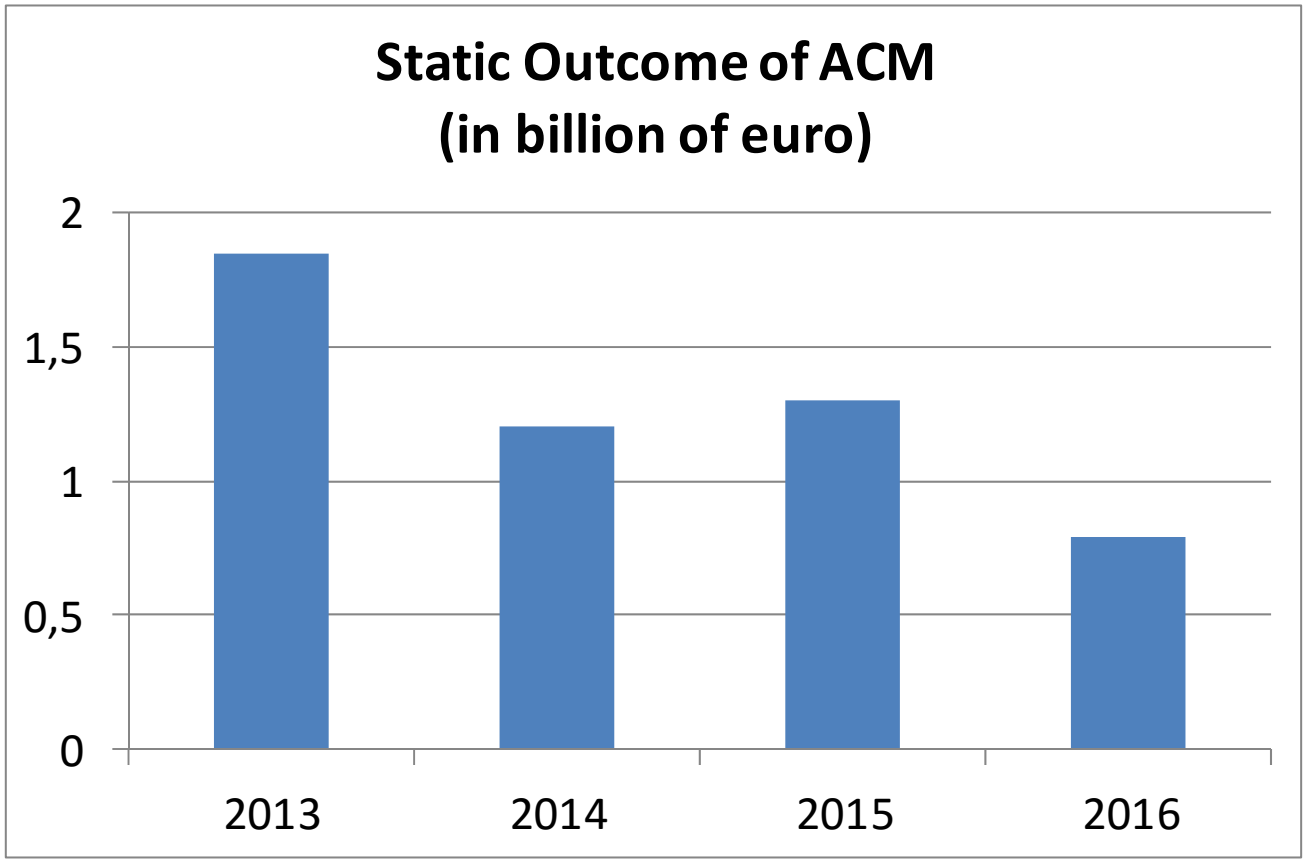

How large is the welfare loss?

- Harberger (1954) – 0,1% GDP
- Scherer & Ross (1990) – 1,3% GDP
- Simple static analysis is incomplete because of distortions by:
  - taxation
  - Imports
  - Dynamic effects
  - Impact on R&D and productivity
- Therefore, we are working on macro calculations

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Impuls for simulations

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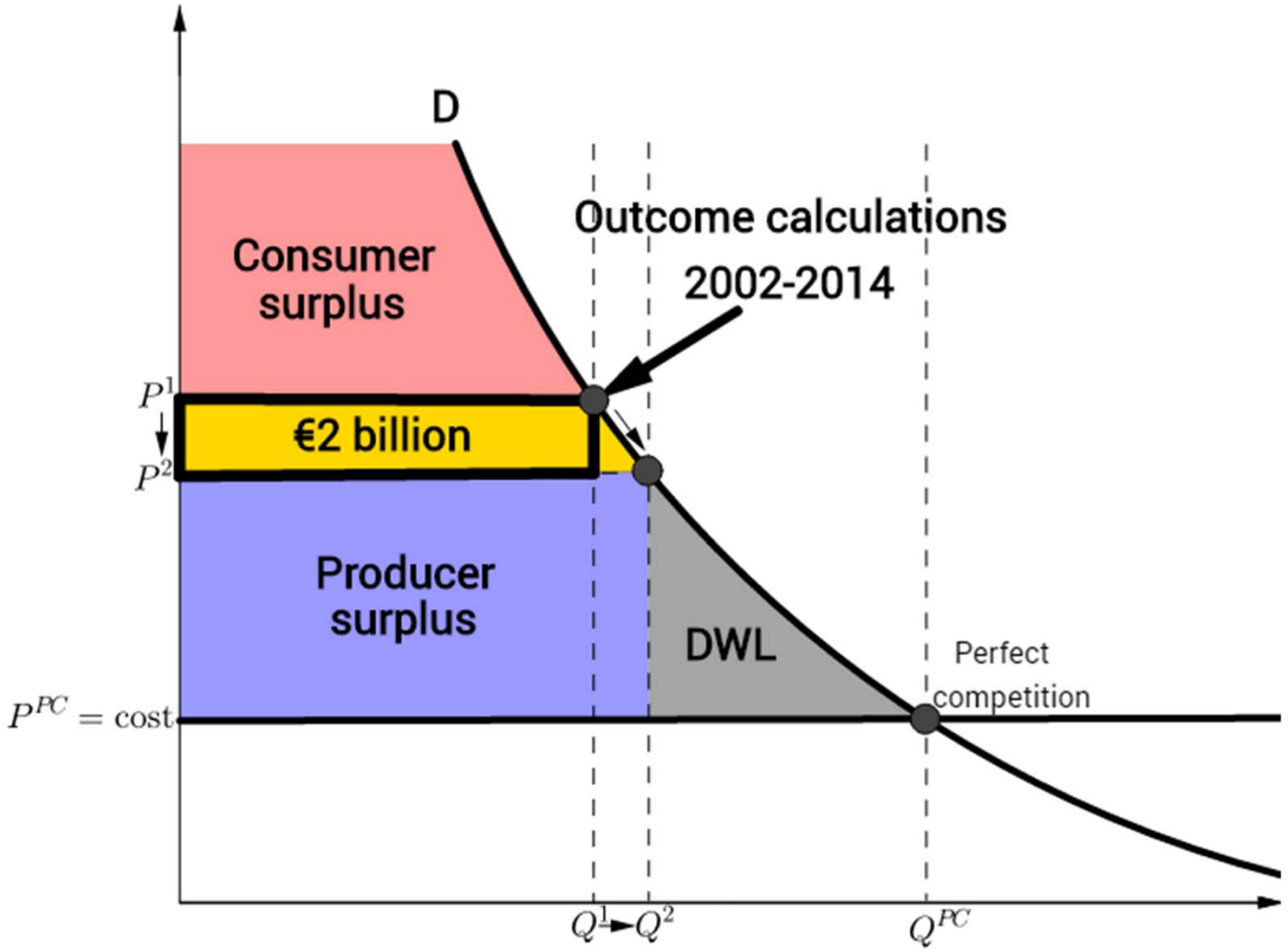

MESEMET-2 model

- Model of Donselaar & Van Sinderen (1998; 2000)
- 125 equations + 44 exogenous variables
- Calculation are in % changes of deviations from a baseline
- Coefficients calculations are based on theory, estimates and calibration
- Update of Van Sinderen & Kemp (2008)

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Working of the model

- Redistribution between producer surplus and consumer surplus
- Impact of profits on R&D
- So we also include impact on R&D

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Results of redistrubition of €2 billion from firms' profits to consumers (0.7 GDP)

		1	10	LT
Production	*Yp*	0.6	0.5	0.3
Export	*B*	0.8	0.4	0.1
Import	*M*	0.0	0.5	0.4
Consumption	*Cp*	0.1	0.9	0.9
Investments	*Ip*	-0.5	-0.3	-0.4
Firms' R&D	*RDp*	-1.0	0.6	0.4
Financial balance government	*dF*	-0.1	0.1	0.1
Employment	*Lt*	-0.5	0.1	0.1
Price	*P*	-0.4	-0.1	0.1
Real gross wages	*Wt*	0.8	0,4	0.3
Profit before taxes	*Wvb*	-5.4	-3.8	-2.8

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Conclusions so far

- Increases in production, consumption, R&D, wages, export, import and productivity
- Small increase in employment (compromised by higher labor costs and thus lower demand for labor)
- Decrease in profits and increase in R&D but drop investments. Efficiency of investments increase.

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Conclusion

- Impact on productivity is positive
- Mostly some impact of cartels and of authorities in empirical research
- Impact on economic and employment growth positive
- Further model analysis needed
- Impact assessment more and more important

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