The impact of the CAP and its reforms on the productivity growth in agriculture

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Introduction

- We apply an empirical framework to analyse the effectiveness of the Common Agricultural Policy (CAP) in terms of its ability to respond to the stated objectives set
- We define the policy effectiveness as the ability of agricultural policy to respond to the stated policy objectives, given the general economic and structural conditions under which the policies operate
- We conduct an empirical analysis on the effects of implemented policies and policy reforms on the objective of the CAP 'to increase agricultural productivity via technological progress and rational use of inputs, especially labour' is conducted
- EU15, from 1980 till 2010

Research questions

- Based on the empirical analysis, this study seeks to answer two inter-related research questions.

- First**,** *what is the impact of agricultural policies and policy reforms on the development of agricultural productivity in terms of value added in agriculture per worker?*

- Second, *what is the role of agricultural policies and policy reforms in the development of agricultural productivity compared to general economic and structural development*?

Independent variables in the model

Control variables	Source
Export-import ratio (Food trade balance)	FAOSTAT
GDP per capita (constant 2000 USD)	World Bank
Net indirect taxes ratio (as a share of GDP, constant 2000 €)	World Bank
Rural population (as a share of total population)	World Bank
Policy variables	
Nominal rate of assistance (%)	Database of Agricultural Distortions (Anderson, K. & Nelgen, S. 2013)
Dummy for MacSharry reform 1992	
Dummy for Agenda 2000 reform	
Dummy for Fischler Reform (SFPS) 2007	

Policy variables (1)

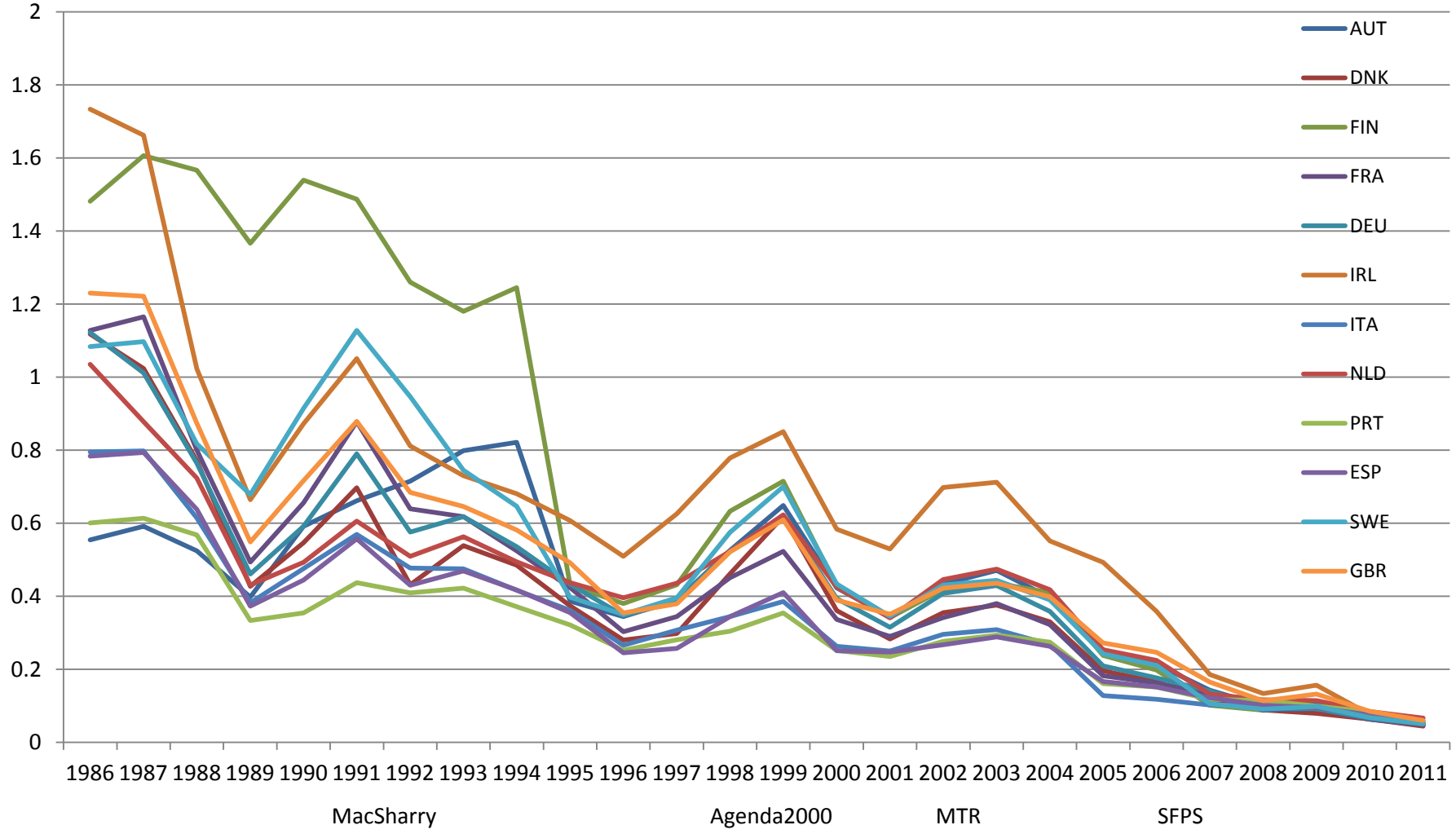
- Nominal rate of assistance (NRA)
  - describes mainly the government-imposed distortions that create a gap between the domestic prices and what they would be under free markets (Anderson et al. 2010)
    - the percentage by which government policies have raised gross returns to farmers above what they would be without the government intervention
    - aggregates all policy instruments which distort agricultural markets
    - is affected by the changes in the world market prices

Policy variables (2)

- Dummy variables for policy reforms
  - MacSharry 1992: reductions in administrative prices
    → direct hectare based compensation payments, full compensation
  - Agenda 2000: further price reductions
    → increase in hectare based payments, partial compensation
  - Fischler 2003: full decoupling
    → single farm payments (fully enforced 2007 onwards)

- Aim to capture the full shock impact of the reforms

Nominal rate of assistance



Source: Agricultural Distortions Database, World Bank

Empirical setting

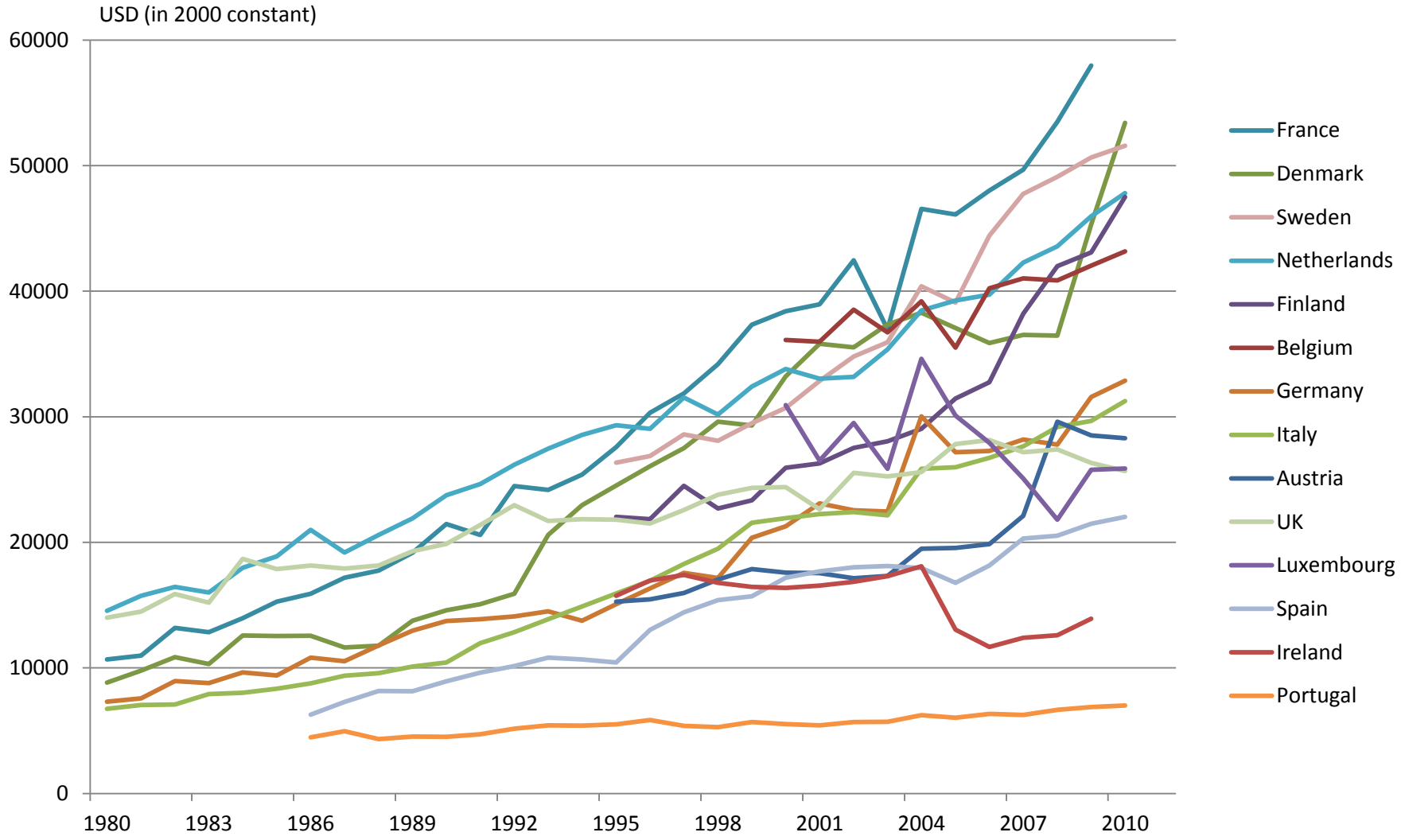
- Stated policy objectives of the CAP (Treaty of Rome 1957)
  - objective: to increase agricultural productivity by…
    - optimal utilisation of the factors of production, especially labour

- Target variable
  - agricultural value added per worker

- Estimated model

$$AVA_{perworker} = \alpha + \beta_1 logsEXIM + \beta_2 logGDP_{percapita} + \beta_3 logsNettax + \beta_4 logRurpop + \beta_5 logNRA + \beta_6 capre + \beta_7 capre2 + \beta_8 capre3 + D$$

Agricultural value added per worker



Lähde: World Bank

Results of the estimated models

	N=299	N=299	N=299	N=299
	RE	RE	RE	RE
Intercept	-270.0***	-203.8***	-151.9***	-154.6***
logsEXIM	2.23 .	2.59*	2.30 .	2.29 .
logGDPperc	20.9***	14.2***	9.37**	9.45**
logsNETTAX	-21.7***	-21.7***	-20.8***	-21.2***
logsRURPOP	-14.4***	-14.7***	-14.3***	-14.8***
logNRA	-4.7***	-4.44***	-4.10***	-4.96***
capre		3.76***	4.28***	3.80***
capre2			2.15*	1.97*
capre3				-1.56
R-Squared	0.74	0.75	0.76	0.76
Adj. R-Squared	0.72	0.74	0.74	0.74
F-statistic	165.4***	149.7***	131.3***	115.1***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

Results

- Agricultural policies have, in aggregate, kept the resources, namely labour in the sector and, thus, reduced the pace of increase in the value added per worker
  - the implemented policy reforms have shifted the direction
  - most recent reform not statistically significant in the model
- Economic growth contributes towards increasing value added per worker
- The higher the number of rural population, the slower the increase in agricultural value added per worker
- Increase in indirect taxes in proportion to GDP reduces the growth rate in agricultural value added

Conclusions

- The implemented agricultural policy reforms have improved the policy effectiveness in term of its impact on the agriculture value added per worker
  - reforms have led policies to right direction
  - pace of the improvement has slowed down reform by reform
- A policy shift from coupled price support to direct payments has released resources from agriculture to be utilised in other sectors
- The impact of agricultural policies is directly linked to structural and economic conditions in a particular country
  - the overall development is similar in all countries
- Agricultural policies have kept more resources in the agriculture sector compared to a situation without policies
  - reduces the pace of productivity growth in terms of labour use

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