

Philippe Baret

in collaboration with Pascal Marcq & Carolin Mayer

**A paradox :
Organic farming performs better but
get less funding**



The Greens | European Free Alliance
in the European Parliament

Methodology

- **A comparative approach : organic vs. conventional**
- **Based on peer-reviewed international scientific publications**
- **Multi-dimensional : environmental, social, economic**



The Greens | European Free Alliance
in the European Parliament

General considerations

- **Imbalance between dimensions**
 - ◆ **Most of the studies are at plot level on environmental dimensions**
- **Lack of multi-factorial comparisons at system level**
- **Impacts are dependent on indicators**
 - ◆ **Organic farming performs better in terms of impact per ha**
 - ◆ **Results are less striking in terms of impact per kg of product**

**IMPACTS OF ORGANIC FARMING
VS. CONVENTIONAL FARMING**
A SYNTHESIS OF SCIENTIFIC REVIEWS

BIODIVERSITY

SPECIES RICHNESS

ORGANISMS ABUNDANCE

**DIVERSITY OF LIVING
CONDITIONS**

LANDSCAPE HETEROGENEITY

SOIL

ORGANIC MATTER

BIOLOGICAL ACTIVITY

SOIL INTRINSIC STABILITY

**CARBON
SEQUESTRATION**

CARBON CONCENTRATION

CARBON STOCK

CLIMATE

GREENHOUSE GAS EMISSIONS

**GROUND SURFACE
WATER**

**NITRATE & PHOSPHOROUS
LEACHING**

AMMONIA LEACHING

PESTICIDE LEACHING

FOOD QUALITY

PROTEINS & VITAMINS

**PHYTOCHEMICALS & HEALTHY
FATTY ACIDS**

NITRATES & PESTICIDES

HEAVY METALS

FOOD QUANTITY

**FOOD OUTPUT PER HA AND
PER YEAR**

LABOUR

PAID LABOUR

ANIMAL WELFARE

HOUSING CONDITIONS

ANIMAL HEALTH


ANTIBIOTIC USE


FARM BUDGET


TOTAL COSTS

**BENEFIT/COST RATIO
WITHOUT PREMIUMS**

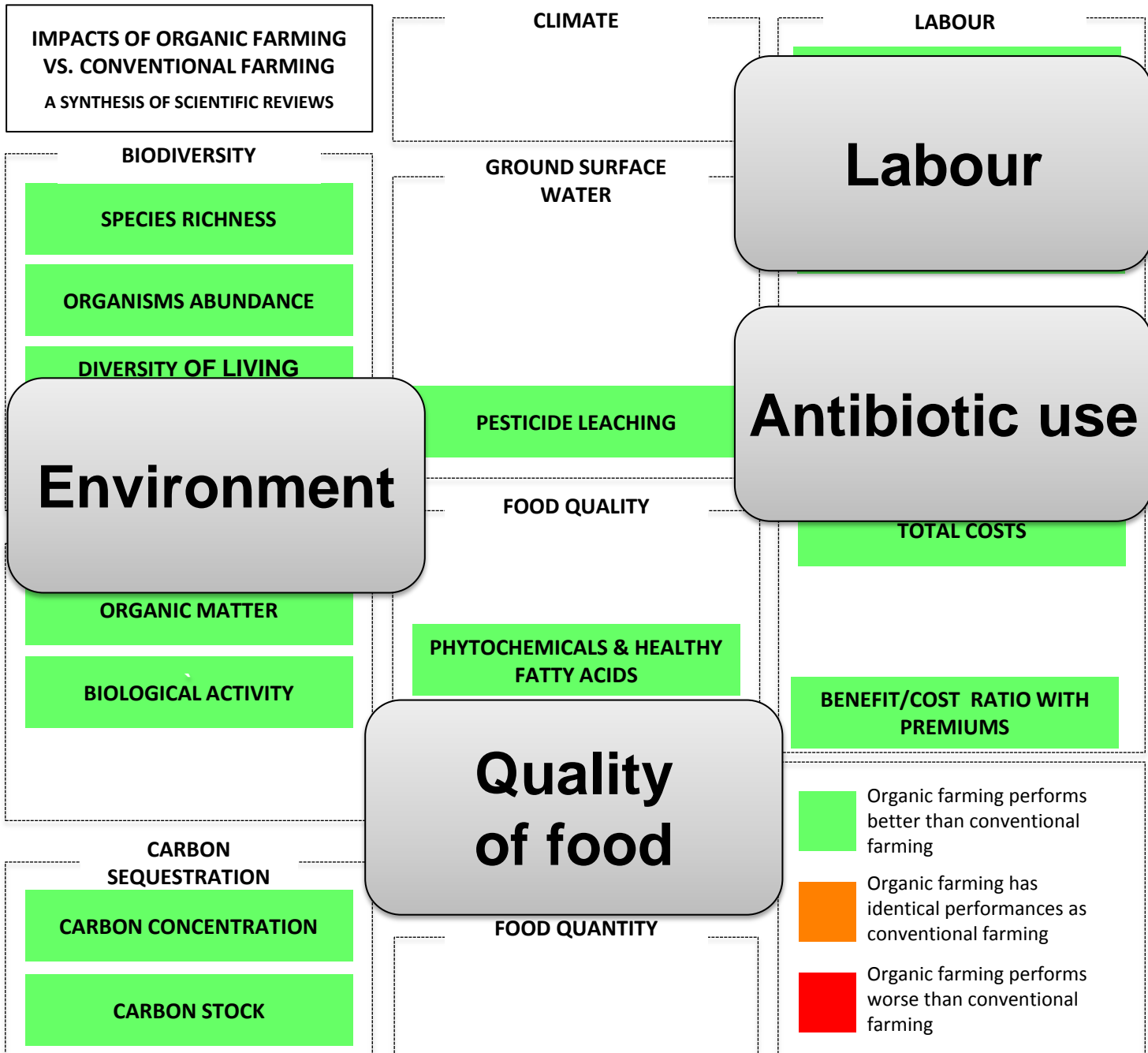
**BENEFIT/COST RATIO WITH
PREMIUMS**

 Organic farming performs better than conventional farming

 Organic farming has identical performances as conventional farming

 Organic farming performs worse than conventional farming

**IMPACTS OF ORGANIC FARMING
VS. CONVENTIONAL FARMING**
A SYNTHESIS OF SCIENTIFIC REVIEWS



**IMPACTS OF ORGANIC FARMING
VS. CONVENTIONAL FARMING**
A SYNTHESIS OF SCIENTIFIC REVIEWS

CLIMATE

LABOUR

BIODIVERSITY

**Climate
change**

ANIMAL WELFARE

AMMONIA LEACHING

ANIMAL HEALTH

**Animal
health**




FOOD QUALITY

PROTEINS & VITAMINS

SOIL INTRINSIC STABILITY

**CARBON
SEQUESTRATION**

FOOD QUANTITY

-  Organic farming performs better than conventional farming
-  Organic farming has identical performances as conventional farming
-  Organic farming performs worse than conventional farming

**IMPACTS OF ORGANIC FARMING
VS. CONVENTIONAL FARMING**
A SYNTHESIS OF SCIENTIFIC REVIEWS

CLIMATE

LABOUR

BIODIVERSITY

**GROUND SURFACE
WATER**

ANIMAL WELFARE




FARM BUDGET

FOOD QUALITY

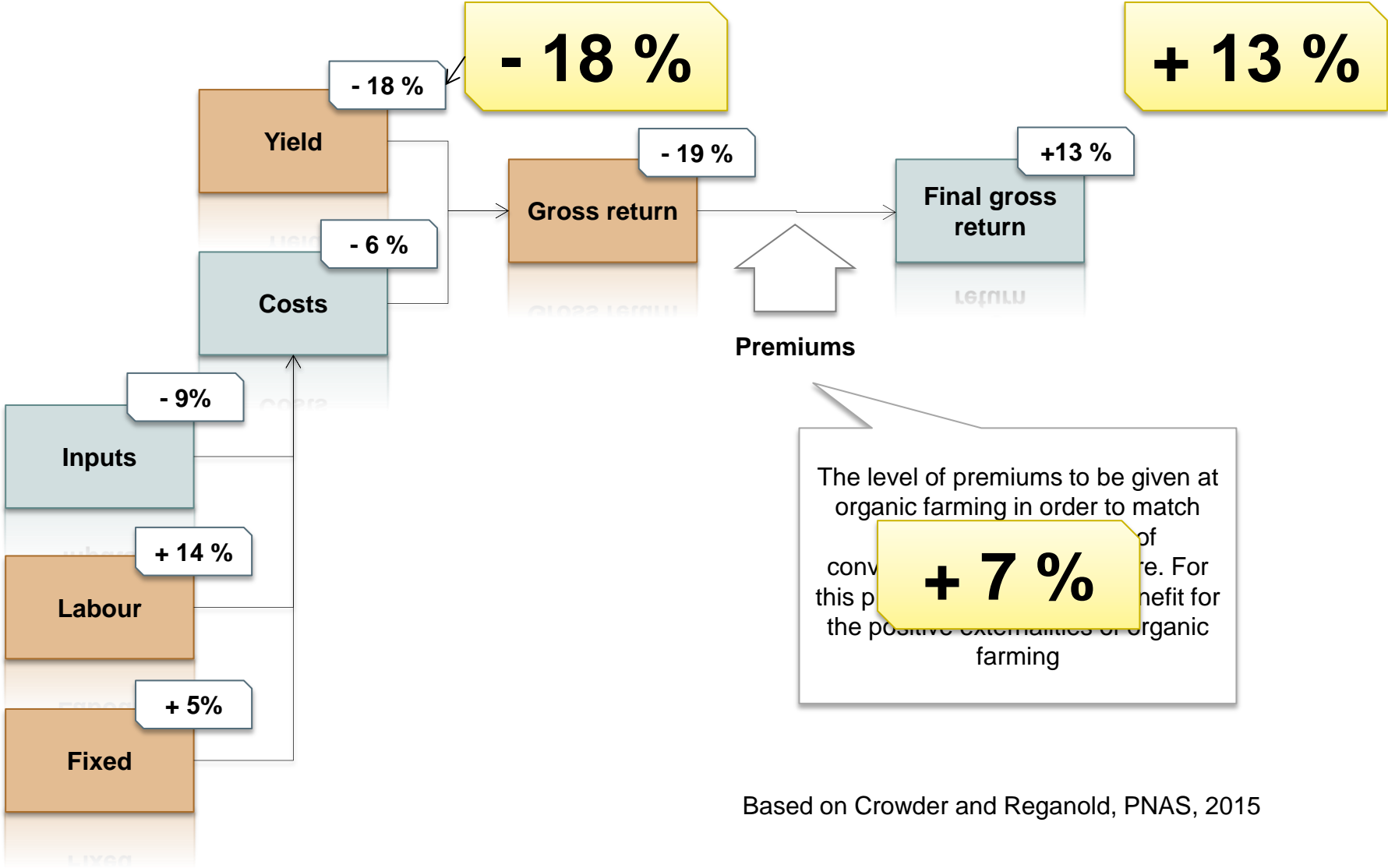
Profit

**CARBON
SEQUESTRATION**

Yield

-  Organic farming performs better than conventional farming
-  Organic farming has identical performances as conventional farming
-  Organic farming performs worse than conventional farming

An integrated analysis



Based on Crowder and Reganold, PNAS, 2015

7 % more premiums for a profitable organic farming

7% more premiums

- ORGANIC MATTER
- NITRATES & PESTICIDES
- SPECIES RICHNESS
- DIVERSITY OF LIVING CONDITIONS
- CARBON CONCENTRATION
- PAID LABOUR
- PHYTOCHEMICALS & HEALTHY FATTY ACIDS
- ANTIBIOTIC USE



The Greens | European Free Alliance
in the European Parliament

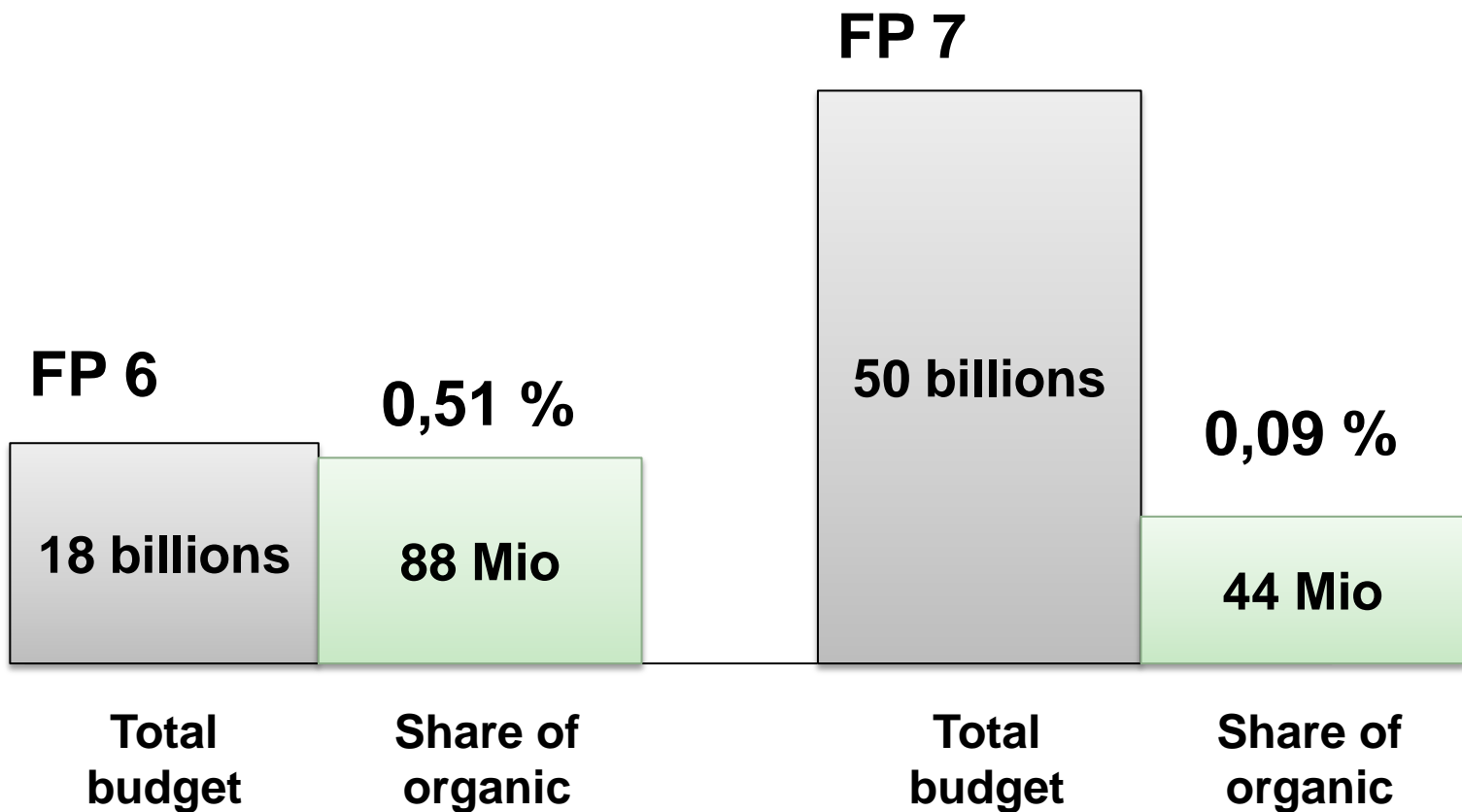
Paradox

- **Organic farming is better in terms of impacts when compared with other pathways**
 - **Support to organic farming is value for money**
 - **Gaps of knowledge exist**
-
- **Organic farming is a good investment for research policies**
- But**
- **The funding of organic farming is decreasing**



The Greens | European Free Alliance
in the European Parliament

Share of research on organic farming



The Greens | European Free Alliance
in the European Parliament

Share of organic farming in European countries

- **Four countries : France, Belgium, Germany, UK**
- **Poor level of information : no database, lack of consistency of data**
- **Estimated share of organic farming in Agricultural research : 1 to 5 %**

Conclusion

- Performances of organic farming are scientifically demonstrated
- More research are needed at the system level
- Imbalance of funding between organic and conventional farming is huge and growing
- Organic farming research is value for money
- Organic farming has a high potential of development