



Food System  
Economics  
*Commission*

WORKING PAPER

# Repurposing Agricultural Policies Scenarios for FSEC

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Valeria Piñeiro



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# Repurposing Agricultural Policies

Scenarios for FSEC

Collaboration IFPRI-PIK-ECI

David Laborde and Valeria Piñeiro

May 2023



# Some previous work

MODELING THE IMPACTS OF AGRICULTURAL SUPPORT POLICIES ON EMISSIONS FROM AGRICULTURE



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Department of Economic and Agriculture  
Commodities and Trade Division  
United Nations



# 1.5-TRILLION-DOLLAR OPPORTUNITY

Investing in agricultural support to transform food systems



# SCIENCE AND INNOVATIONS

for Food Systems Transformation  
and Summit Actions

Joachim von Braun, Kaosar Afsana,  
Louise O. Fresco, Mohamed Hassan (editors)

Papers by the Scientific Group and its part  
support of the UN Food Systems Summit.

David Laborde  
Abdullah Mamun  
Will Martin  
Valeria Piñeiro  
Rob Vos







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# 1.5 TRILLION-DOLLAR OPPORTUNITY

Using agricultural support to transform food systems



**2020:** What is the effect of current farm policies on agricultural emissions? (no land use)

**2021:** Counting the cost of various agricultural support instruments on nature, climate, nutrition, health and equity by 2030

**2021:** Reallocating farm subsidies towards products with low emissions and/or high nutrition potential

David Laborde  
Abdullah Mamun  
Will Martin  
Valeria Piñeiro  
Rob Vos



INTERNATIONAL  
FOOD RESEARCH  
INSTITUTE

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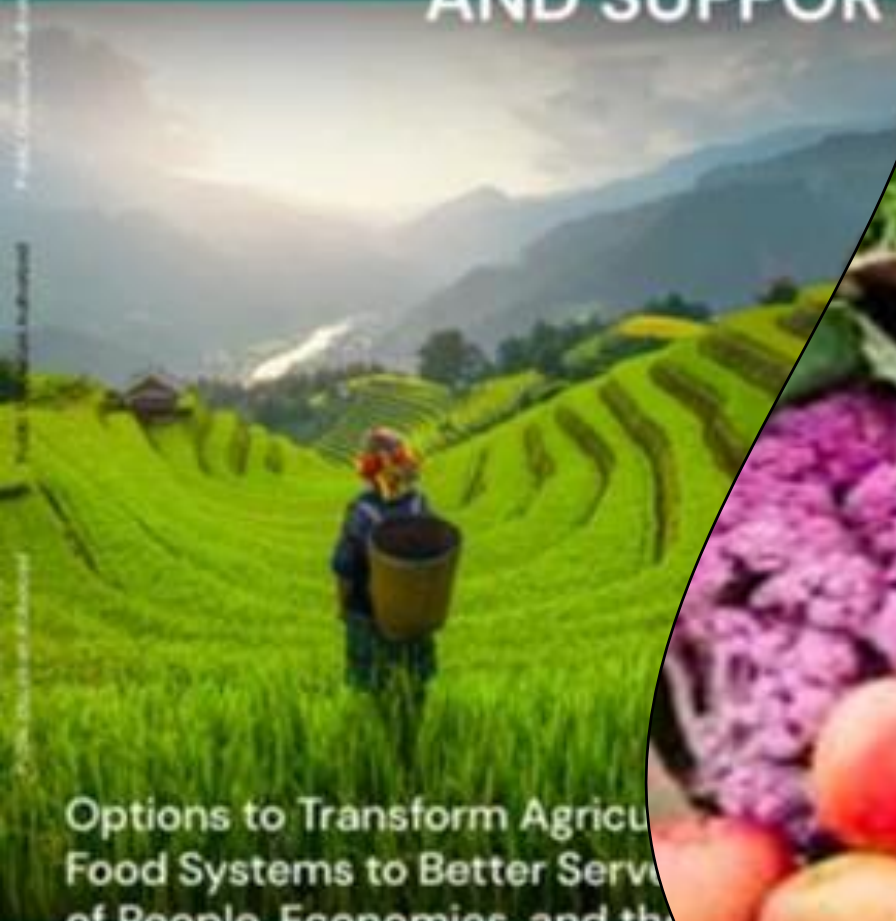


JANUARY 2022



2022

# REPURPOSING AGRICULTURAL POLICIES AND SUPPORT



Options to Transform Agricultural Food Systems to Better Serve the Needs of People, Economies, and the Planet

Madhur Gautam, David Laborde, Will Martin, Valeria Pinheiro, et al.

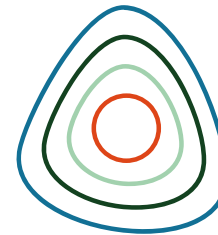


# FOOD SECURITY AND NUTRITION IN THE WORLD

IN BRIEF

THE STATE OF

REPURPOSING AGRICULTURAL POLICIES FOR HEALTHY DIETS MORE AFFORDABLE



Food System Economics Commission

# REPURPOSING AGRICULTURAL POLICIES AND SUPPORT

2022

**2022:** Phasing out of existing policies by 2040 (**with land use**) and focus on **green innovations**

**2022:** Trade-offs of repurposing policies towards healthier diets and consumer incentives

**2022:** Hidden gains and costs of current policies

**2022:** Repurposing: how to make it works for the Global South?



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Options to Transform Agricultural Food Systems to Better Serve the Needs of People, Economies, and the Planet





# Some lessons learned



Farm policies are complex and diverse, and people are prone to over-simplification

Subsidies are just a part of the decision making by farmers: even without subsidies production will occur (somewhere)

Ex-ante policy goals and ex-post policy impacts could be different: what should be the criteria to define “harmful” subsidies?

Policy reform is a country level process, but many environmental impacts are cross-border

Removing all existing subsidies will make things worst in today’s world and productivity matters

How to reform policies: “do no harm”, with a well focused approach, or “do good” and tackle the multi-dimension of the food system transformation

Integrating Global South countries in the discussions remain challenging



# Understanding policy impacts

- Two main type of policies

Subsidies aka  
domestic  
support

Trade policies  
aka import and  
export  
taxes/subsidies

- 4 types of effects

How much  
to produce  
(scale)

What to  
produce  
(products)

How to  
produce  
(practices)

Where to  
produce  
(location)



# Defining harmful for the environment is not straightforward. E.g., of Input Subsidies category (2020)



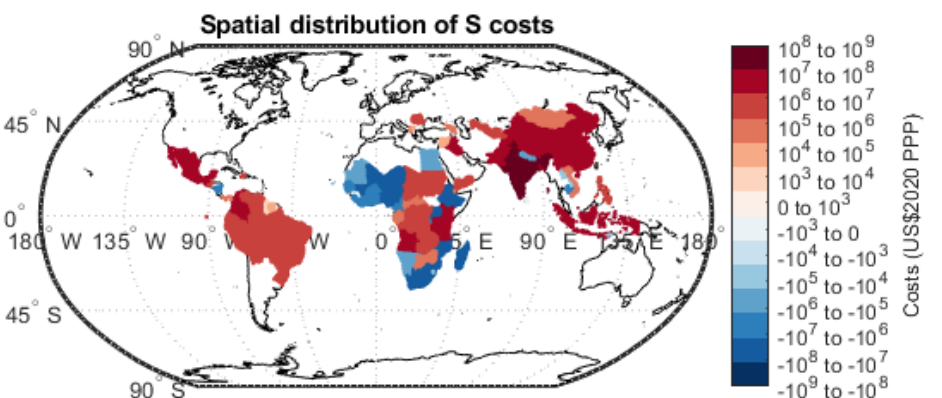
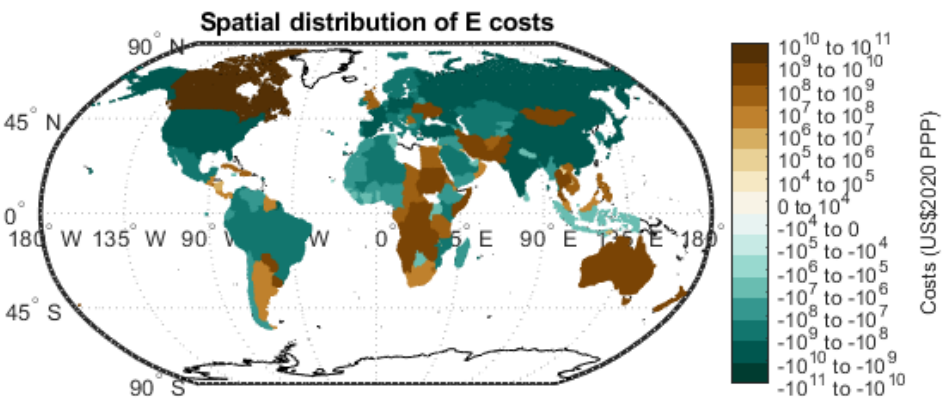
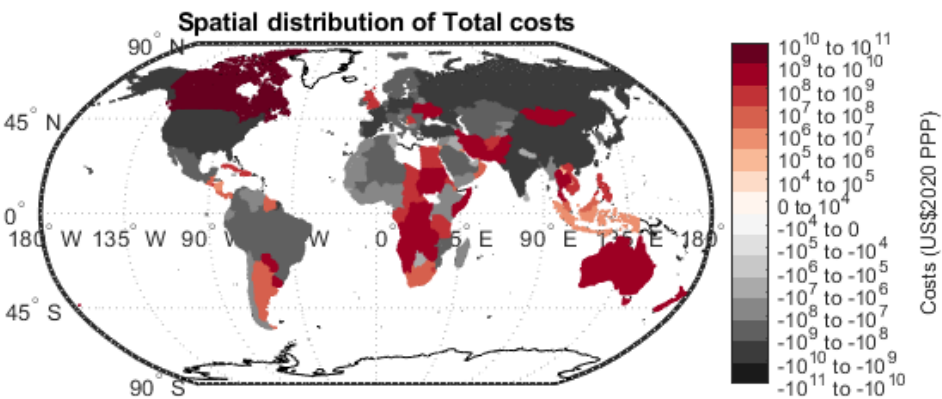
Input type	Value (US\$ bn)	Share
Chemicals and pesticides	0.2	0.2%
Environment	8	7.7%
Extension services	9.6	9.3%
Feed	0.5	0.5%
Fertilizer	19.9	19.3%
Financial services	17.6	17.0%
Fuel	15.6	15.1%
Insurance	7.7	7.5%
Irrigation	6.7	6.5%
Mechanization	7.3	7.1%
Quality control	0.1	0.1%
Risk management	1.2	1.2%
Seed	0.3	0.3%
Transport	0.1	0.1%

Source: Laborde and Mamun, 2022, based on the OECD PSE database

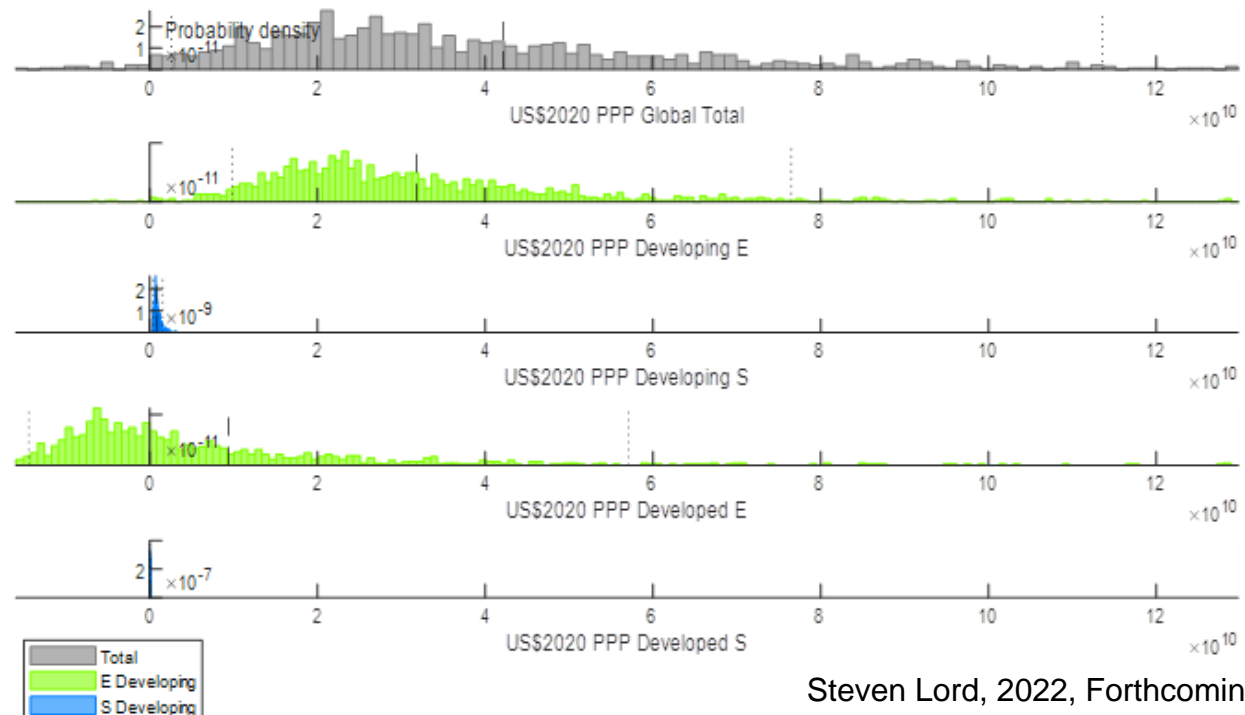
# Spatial distribution of damages in Scenario S0x



True cost of removing existing subsidies



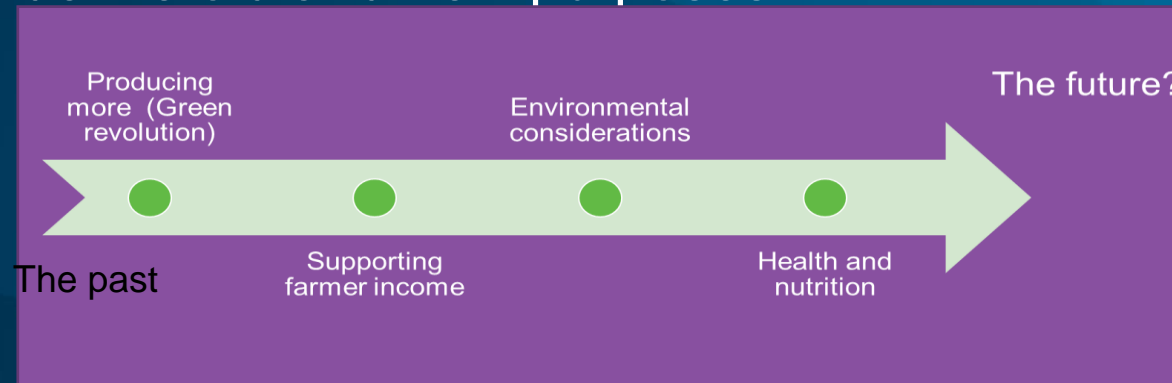
2020Global total, environmental and social cost or benefit by development with uncertainty estimate under Scenario S0x





# An issue of semantics... and metrics

- Repurposing?
  - Need to define old and new purposes

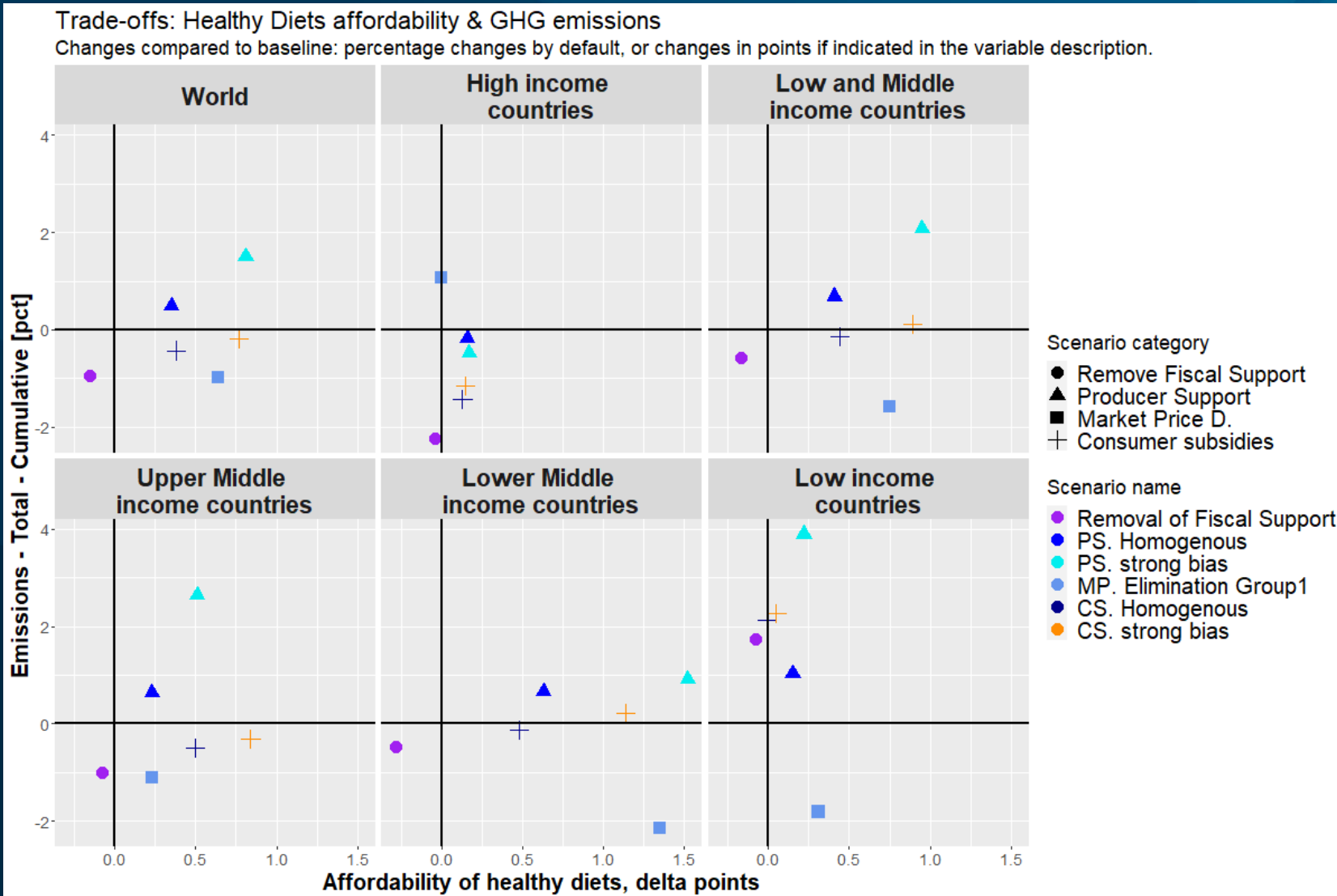


- Reforming?
- Reallocating resources?
- Support vs subsidies? All type of support are not subsidies, and all subsidies are not recorded in our metrics of support.
- Harmful subsidies?





# Multi-dimension targets: Tackling trade-offs, cross-border effects and the need to enlarge the policy space





# Methodology

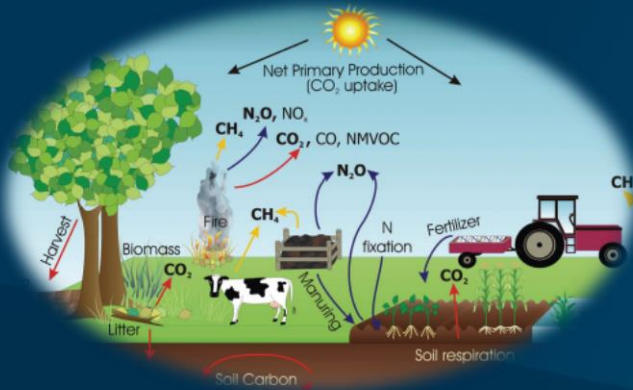


# Data and Model

## Data

### GHG database

- Based on FAOSTAT (Tubiello and al.)
- Extended for energy and fertilizers



### 2021 release

Information of price distortions (NRP) and payments (subsidies)

Fiscal Support divided into three payment categories (output, inputs and others)

Input payments disaggregated by category (fertilizer, extension services and more)

## Model

**MIRAGRODEP**

**141** COUNTRIES and REGIONS

**65** SECTORS and up to **80** GOODS and SERVICES

More than **300,000** HOUSEHOLDS

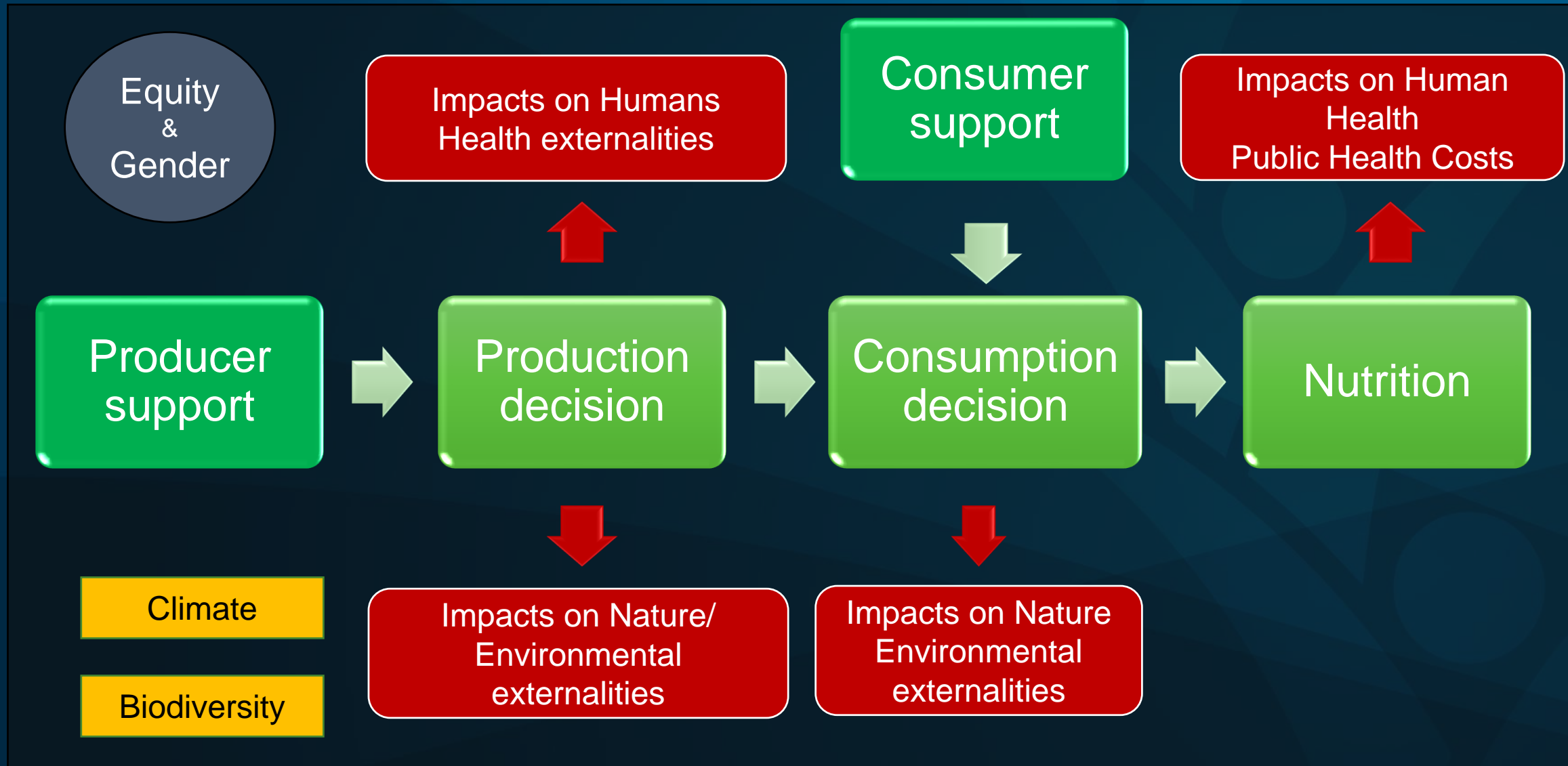
- + GTAP 11 v2 database
- + Extensions / adaptation

Source: Laborde and al. (2022)





# Impact framework

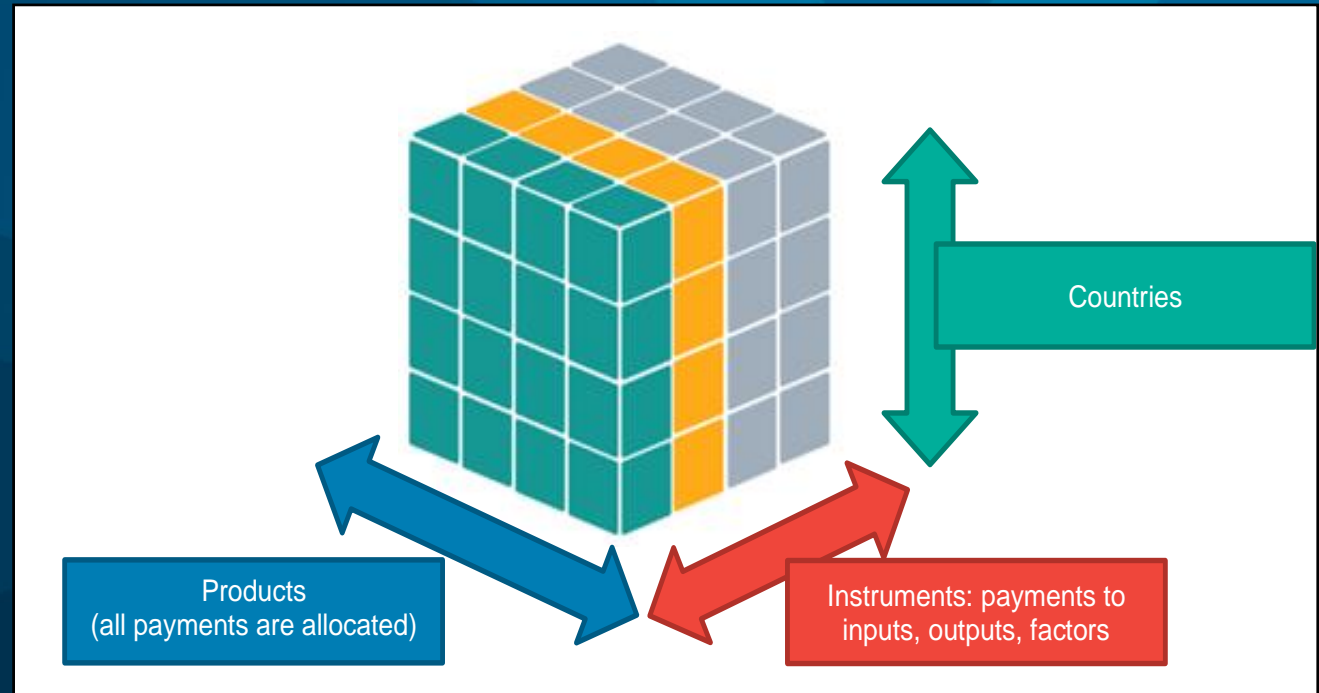
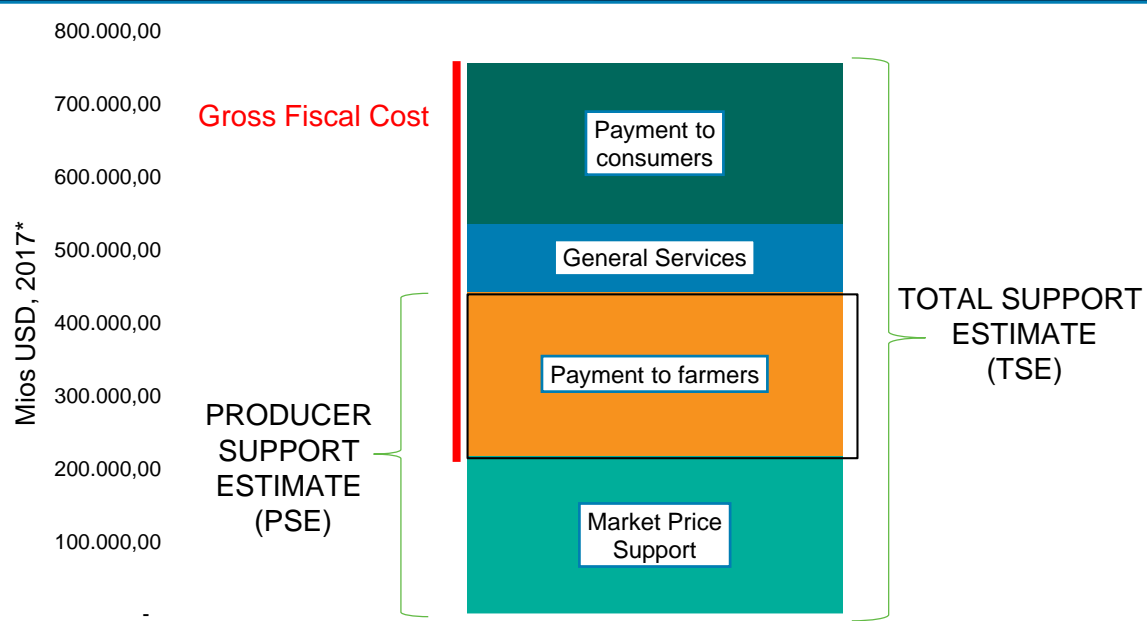




# Critical Issue: Defining Scenarios



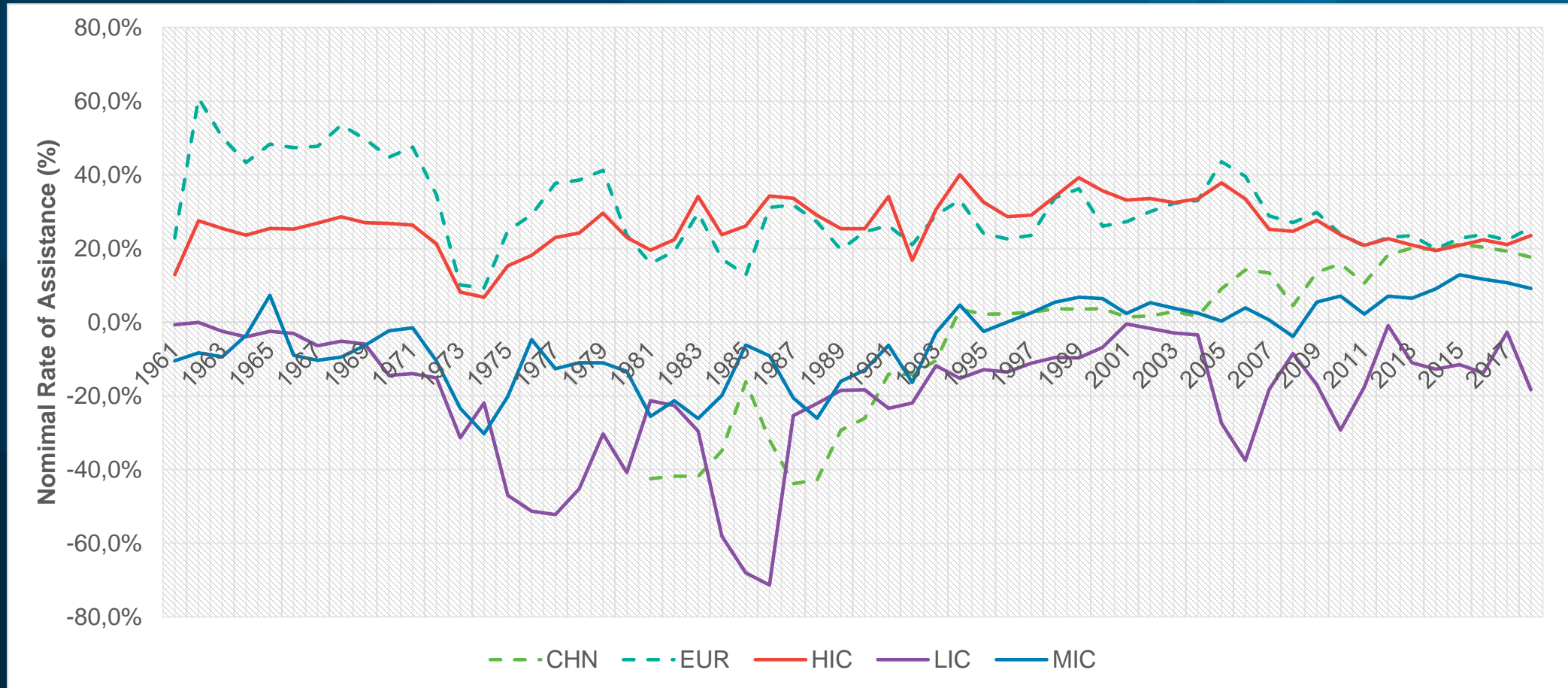
# From repurposing to reallocating



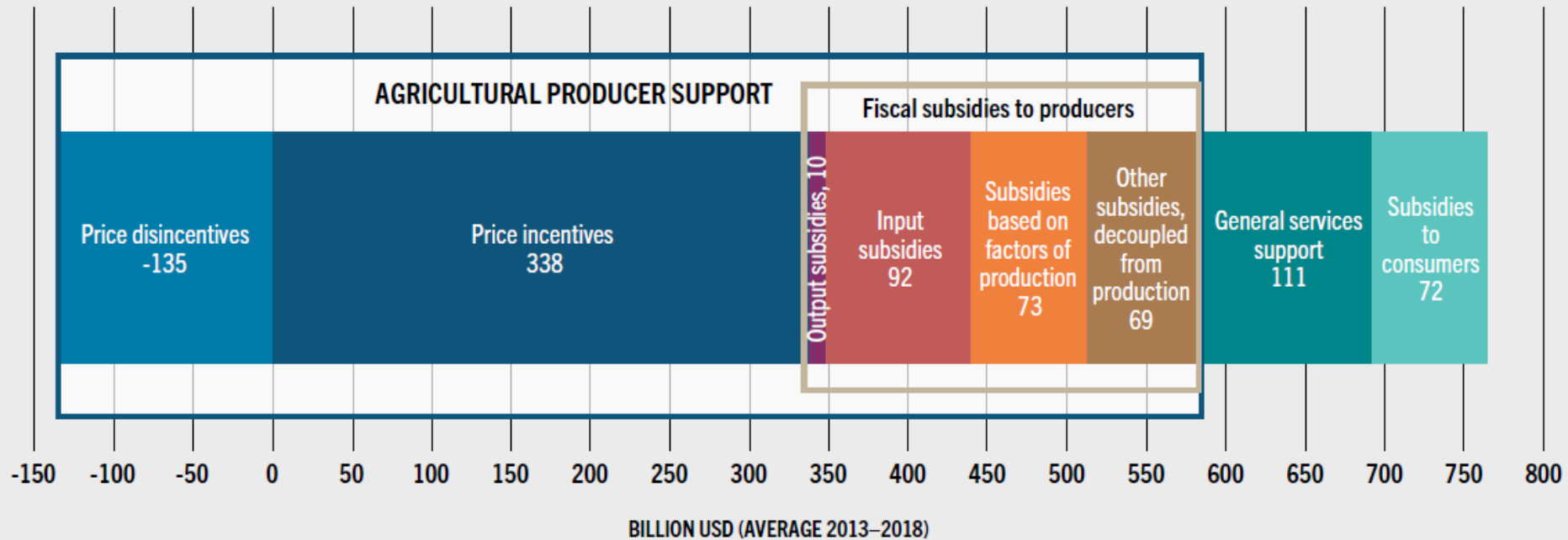




# Nominal Rate of Assistance by Economic Region and focus on China and the EU



# Level and composition of global support for Food and Agriculture (USD Billion, average 2013-2018)



SOURCE: Ag-Incentives. (forthcoming). *Ag-Incentives*. Washington, DC. Cited 4 May 2022. <http://ag-incentives.org> with data from OECD, FAO, IDB and World Bank compiled by the International Food Policy Research Institute (IFPRI).

Fig 18 in SOFI 2022



	Total Support	Fiscal Farm Support	NRP	NRA	Share in global			
	(Mio USD)	(Mio USD)	%	%	Ag. VoP	Ag. Fiscal Support	Ag. Producer Support	Total Support
<b>World</b>	633,697	243,224	6%	16%	100%	100%	100%	100%
<b>High Income countries</b>	304,742	123,296	9.45	25.95	28%	51%	48%	48%
<b>Upper-Middle Income countries</b>	304,639	83,070	10.54	18.64	46%	34%	56%	48%
<b>Lower-Middle Income countries</b>	23,064	36,458	-6.74	0.31	23%	15%	-4%	4%
<b>Low-Middle Income countries</b>	1,252	400	-3.37	0.21	3%	0%	-1%	0%



## Four scenarios

	<b>Policy baseline: as of today</b>	<b>Policy baseline: <u>Increasing</u> <u>support rate for</u> <u>LMIC based</u></b>
<b>Redistribution of <u>all existing payments</u> in a homogenous way within NATIONAL borders</b>	<b>S1</b>	<b>S3</b>
<b>Redistribution of all <u>existing payments</u> in a homogenous way GLOBALLY</b>	<b>S2</b>	<b>S4</b>





# Interpreting the scenarios

	<b>Policy baseline: as of today</b>	<b>Policy baseline: <u>Increasing support rate for LMIC based</u></b>
<b>Redistribution of <u>all existing payments</u> in a homogenous way within NATIONAL borders</b>	<b>Level the playing field across products but not across countries.</b> Current support is biased towards some commodities. The goal is to remove such bias and support farm income in a homogenous way	<b>Take into account the policy dynamics in the Global South.</b> Today poor countries do not have significant policy support for their farm sector, but this will change (as it has occurred in all other countries). There is need to take into account this new reality and reassess policy repurposing in a world where low and middle income countries could do the same mistake than more advanced economies if no repurposing is done from the beginning.
<b>Redistribution of all <u>existing payments</u> in a homogenous way GLOBALLY</b>	<b>Level the playing field across products and across countries.</b> Current support is unevenly distributed around the world. The goal is to address this global inequality. While this scenario is 'bold' in terms of political economy, it is designed to illustrate a radical rebalancing of policies around the world	<b>Rebalancing support in a changing world.</b> This scenario addresses both issues: avoiding that the developing world spend more money in agriculture in a distortive way, and rebalancing farm support across borders to get fairer global food systems.



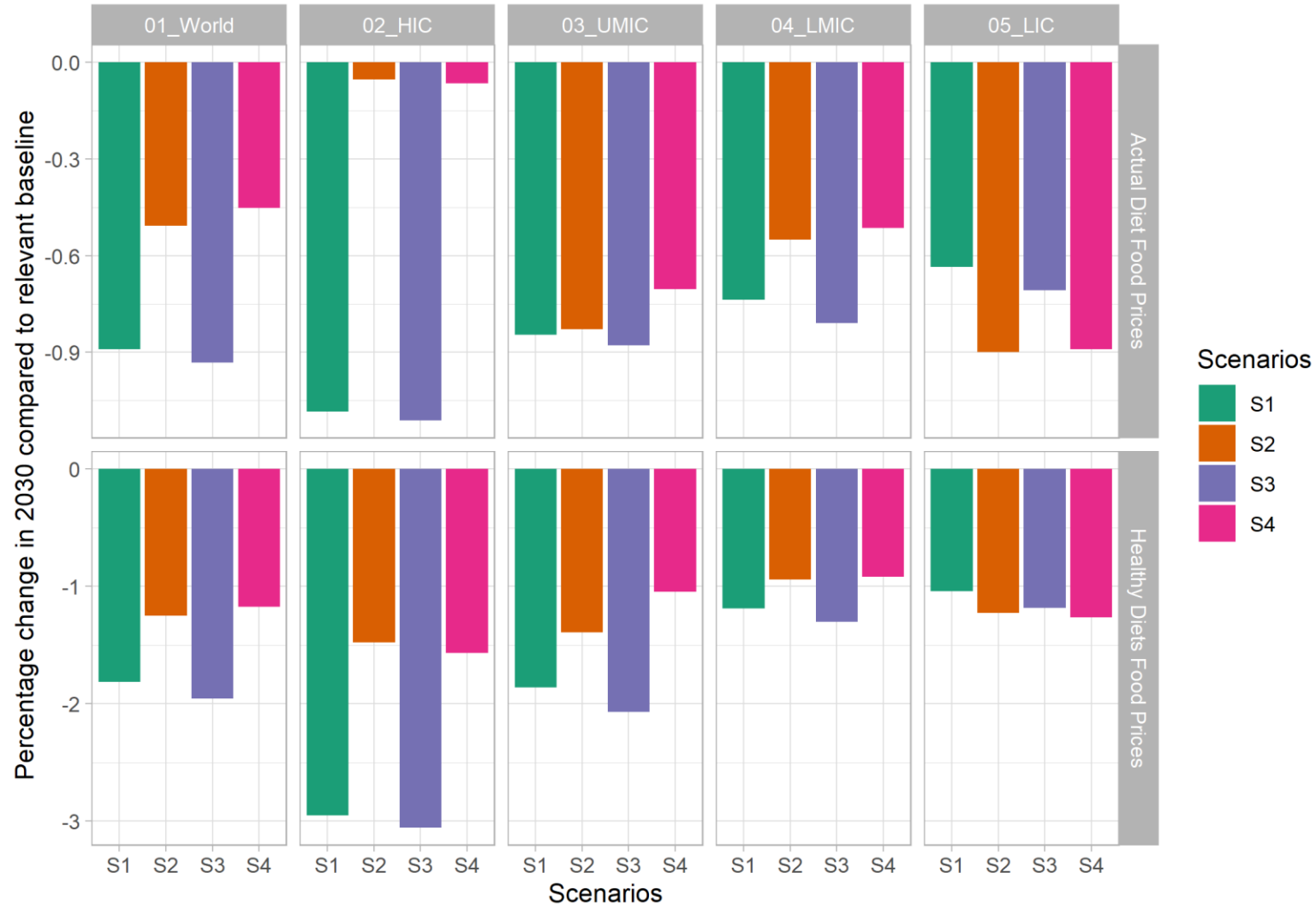
# Results

### Impacts on GDP (volume), sectoral production and Agrifood real value added



Source: MIRAGRODEP Simulations

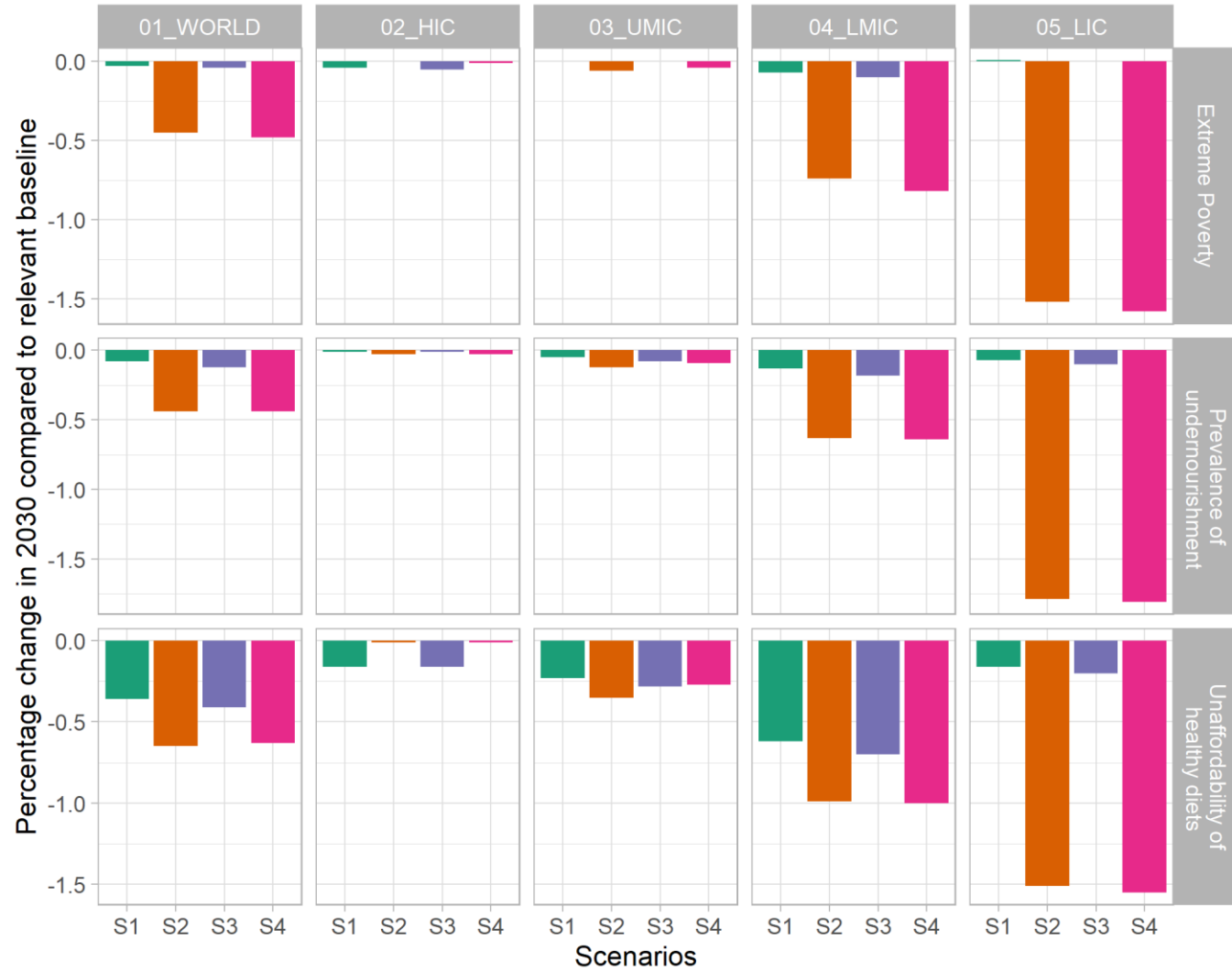
## Impacts on Domestic Prices



Source: MIRAGRODEP Simulations



## Impacts on household



Source: MIRAGRODEP Simulations



# Conclusions



# Lessons Learned: Limited Opportunities and careful planning is needed

## Removing existing policies will

Hurt farmers overall (with some benefits for some countries)

Will slightly help the poor and the hungry IF border protection is removed

Ambiguous effects on global emissions, mainly through a contraction of production and land abandonment

## So, Repurposing is required

Investment in Sustainable Intensification is required. Investing in "traditional" productivity gains will not deliver

Border Policies and Domestic Support have, in most of the cases, opposite effects on diets

Input subsidies are a tricky issue

## Focusing on healthy/environmental friendly products

Could contribute to reduce the cost of healthy diets but has limited impact when using producer subsidies

Risk for governments to pick the wrong "good" products

Phasing out resources from staples could have a small impact on undernourishment

During the transition, technology transfer, innovation, and adequate financial resources will be essential to enable adoption to catch up in the global south.



# Conclusion and Guidance for trade rules

Current WTO rules are not an obstacle for repurposing, but they provide weak incentives or guidelines.

Blue box policies, especially for livestock, are a significant potential to curb GHG emissions.

Repurposing could involve significant box shifting towards Green Box, and abuse of existing flexibilities

Assessing price support through historic reference price is not consistent with a transformation agenda

In the future, soul searching for the WTO members: should the rules focus on “do no harm” or “do good”

Disciplining Overall Trade Distorting Support is not synonymous to improve Social and Environmental impacts of farm policies

Increase Transparency and Monitoring (Notifications) will be essential to promote trust and coordination in the global repurposing process

Tariffs remain an awkward instrument to guide repurposing

Border Tax Adjustments are a second-best option

Discriminatory use will be a source of dispute and also inefficiencies