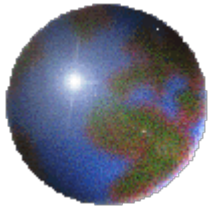




Kym Anderson

Addressing off-farm impediments to global food security



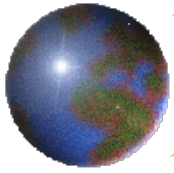
Kym Anderson

University of Adelaide and Australian National University

kym.anderson@adelaide.edu.au

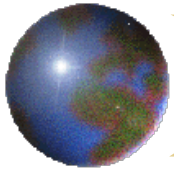
Crawford Fund Annual Conference on *Global Food Security in a Riskier Environment: Diversification for Resilient Food and Nutrition Systems*

Canberra, 4-5 September 2023



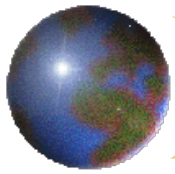
3 take-away messages

1. Not only has the **riskiness** of agricultural production been increasing this century, but so too have **global market and policy uncertainties** faced by farmers and agrifood businesses



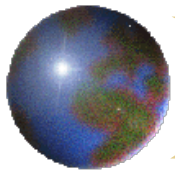
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 - better markets for the services of **natural capital**,
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 - **more public-private collaboration** to up-scale innovations pertinent to the needs of DC farmers and agrifood businesses



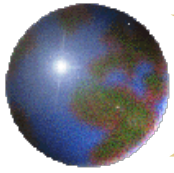
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3. The returns from such investments would be enhanced if there was **less government intervention in national agrifood markets**, to ensure better use of the world's current agricultural resources, **& of prospective technologies**, by getting prices right



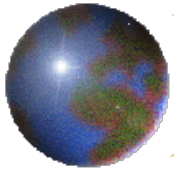
First message: not just riskier, *also more uncertainty for farmers*

- ⊕ Agric **production** and **trading** has always been risky
 - ⊕ e.g., yield fluctuations due to variations in seasons, and fluctuations in int'l prices and exchange rates
- ⊕ Those risks have **increased this century**
 - ⊕ i.e., their probability distributions have widened (e.g., due to climate changes), but are still known
- ⊕ But **market** and **policy** uncertainties also have increased (unknown probability distributions)



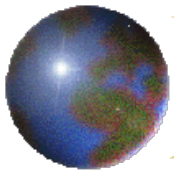
Three types of increased uncertainty

- ❖ **1. Market uncertainty**: income distributional and employment outcomes of the latest globalization wave and digital revolution are **less predictable** (& less equitable) than in previous waves (Baldwin 2019)



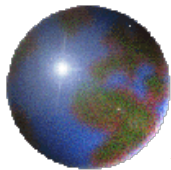
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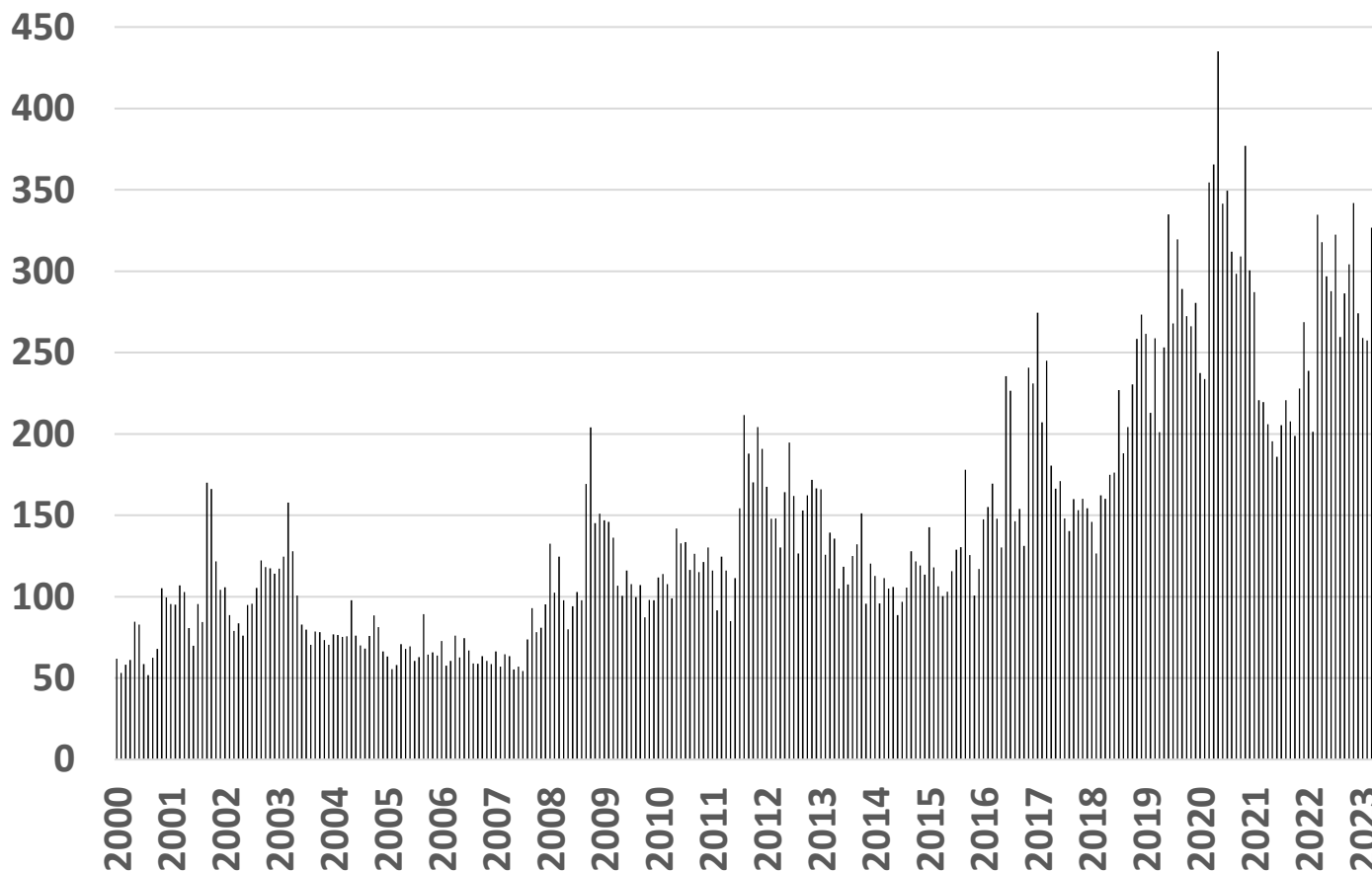
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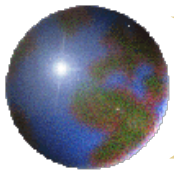
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Global economic policy uncertainty index

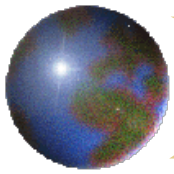
Source: www.policyuncertainty.com





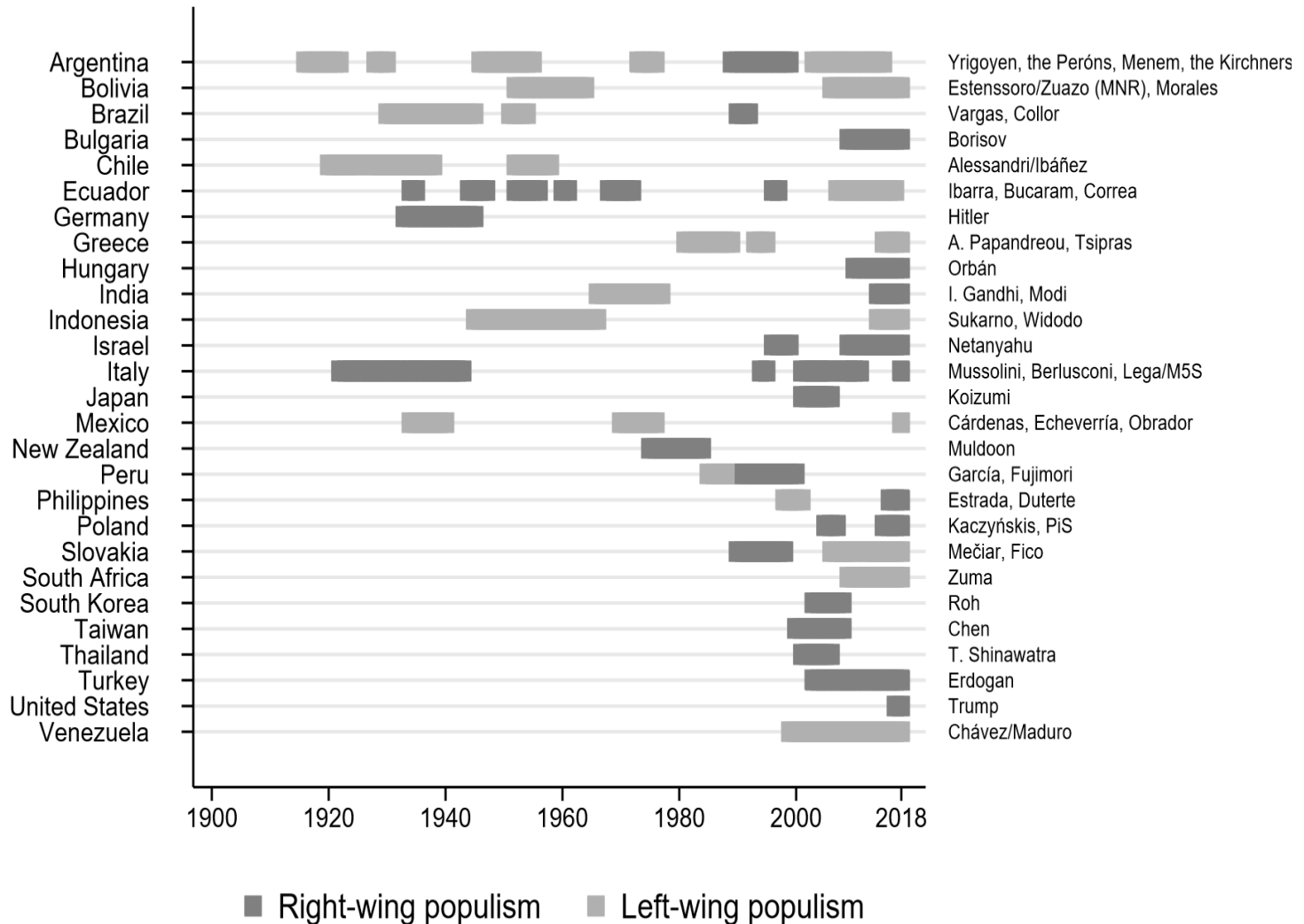
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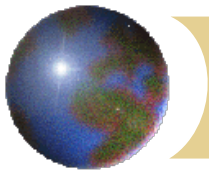
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- ⊕ **3. Policy uncertainty**: speed of globalization plus ICT revolution has led to anti-globalization populism and more erratic trade-restrictive measures
 - ⊞ The world had **more populist governments** in the 2010s than in any previous decade since 1900



Populist governments since 1900

(Source: Funke, Schularick and Trebesch, 2021)



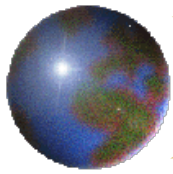


Rise of populism

Populism leads to economic **nationalism** and trade **protectionism**, and so to **less multilateralism** and **slower economic growth**

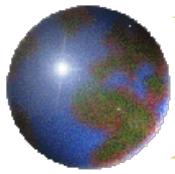
(Funke, Schularick & Trebesch 2021)





Yet the world needs faster economic growth to reduce poverty, and more multilateralism to generate more key global public goods to:

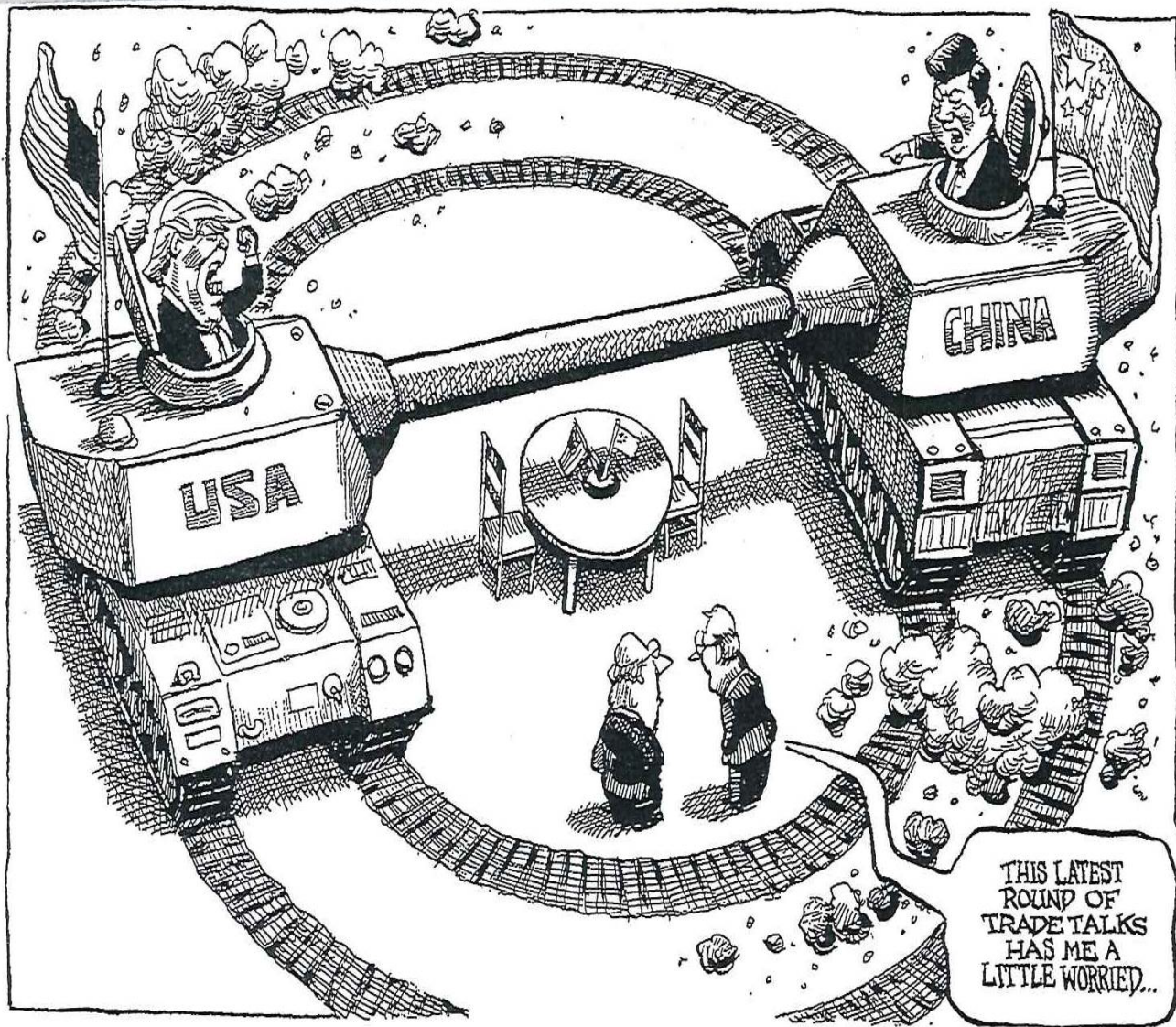
- ⊕ slow **climate change**
- ⊕ reduce **biodiversity loss**
- ⊕ lower communicable **health risks**



Some sources of greater uncertainty

- ✪ **China** (greatest gainer from globalization) is now **more assertive & less reliable** as a trading partner
- ✪ **Russia**, having become a major exporter of grains, fertilizer & hydrocarbons, has disrupted those markets by **aggressive interventions**, especially in Ukraine, that have triggered trade sanctions
- ✪ **US** had a populist President (& may again after 2024)
 - Weakened US hegemony, **triggered tariff 'wars'**, and **undermined WTO, IPCC, WHO**

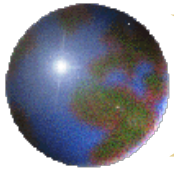
=> Heightened risk of international conflict



USA

CHINA

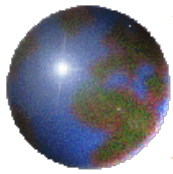
THIS LATEST
ROUND OF
TRADE TALKS
HAS ME A
LITTLE WORRIED...



Second message

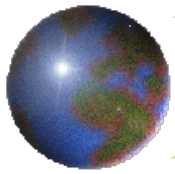
To boost **global food security** & generate **more-sustainable food systems** and **more-resilient climate-smart farmers**, the following are needed:

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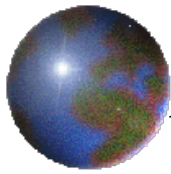
Markets for the services of natural capital

- ⊕ Efficient use of **farmland** requires secure property rights and markets for sale, leasing, etc.
- ⊕ Likewise **irrigation water**: establish property rights, markets for their sale & lease, and policies for altering allocations/year according to seasons
- ⊕ plus taxes (not subsidies) on polluting farm inputs
- ⊕ plus markets for **sequestering carbon in soil**
- ⊕ plus markets for **other ecosystem services** (e.g., tree planting to reduce loss of biodiversity)



More public investment in agricultural research and rural infrastructure ...

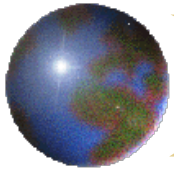
- ... especially in developing countries where **underinvestment is rife** (Rao, Hurley & Pardey, 2020)
 - Desirable not least because **benefits are shared** **between producers** (higher incomes all along the supply chain) **and consumers** (lower food prices)



More public-private collaboration to up-scale innovations pertinent to small farmers in DCs

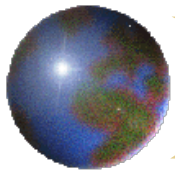
- ❖ USAID's Development Innovation Ventures
 - ❖ supports **innovators & researchers** to test new ideas, take strategic risks, build evidence of what works, and advance the best of those with evidence of impact, cost-effectiveness, and a viable pathway to scale and sustainability

- ❖ Univ. of Chicago's Innovation Commission for Climate Change, Food Security and Agriculture (see COP28)
 - ❖ looking to support **adaptation innovations** that are difficult to up-scale commercially, and
 - ❖ Will also encourage private-sector **mitigation innovations**, by offering advance market commitments (as already used to encourage vaccine development)



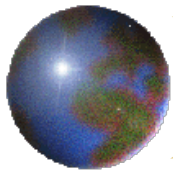
Third message

The returns from such public and private investments would be enhanced if there was **less government intervention in national agrifood markets**, to ensure better use of the world's current agricultural resources, **and of prospective technologies**, by getting prices right



What's wrong with current ag policies?

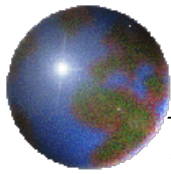
1. Still very **price-supportive**, including in some DCs, which **helps richest farmers most** and **hurts poorest food consumers most**
 - ❏ WTO's current focus on agrifood **subsidies** is not enough: **import tariffs** still contribute >90% of global welfare cost of agric support policies (so domestic subsidies <10%, see Anderson et al., 2023)



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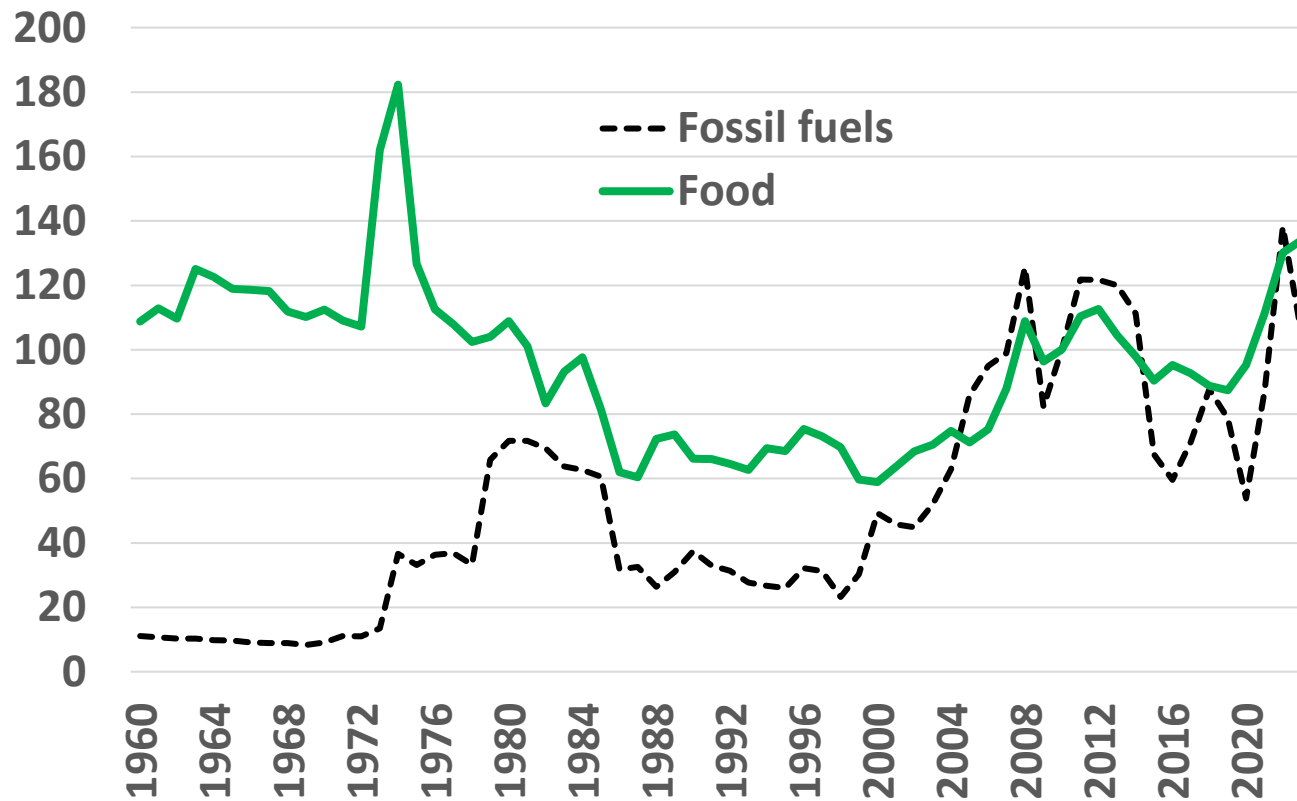
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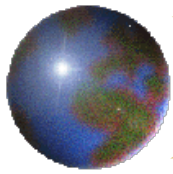
- ❖ 2. They still **insulate** against international food **price spikes**
 - ❖ yet that's ineffective if both exporting and import-competing countries try to reduce transmission of int'l price spike to their domestic markets: it's like everyone standing in a football stadium hoping to see better (Martin & Anderson, 2012; Jensen & Anderson 2017)



Real international food and energy prices are spiking more frequently this century

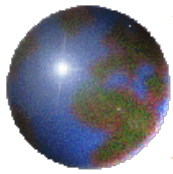
(Source: *World Bank Pink Sheets*, to July 2023)





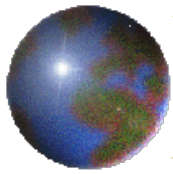
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- ❖ 2. They still **insulate** against international food price spikes
- ❖ 3. Their reform would improve global econ welfare, but not boost global food output or lower food prices much
 - ❖ Need to do more to **boost global food and nutrition security** & the **sustainability of food production systems** (Gautam et al., 2022)



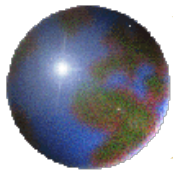
What can be done?

- ⊕ Individual farmers: can **diversify their crops** to reduce risk and uncertainty
- ⊕ Individual agrifood traders: can **diversify their foreign country engagement** to reduce risk of trade restriction shocks & economic coercion
- ⊕ National governments: can **re-purpose current policies** of farm support for better economic, environmental and social outcomes



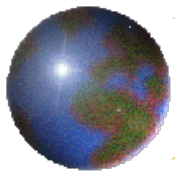
Scope for re-purposing supports for farmers

- ⊕ Ag market price supports are very **inefficient**, very **inequitable**, and **anti-trade** (i.e., biased toward least-competitive farm industries in each country)
- ⊕ Thus **reducing them** would lower the economic & environmental cost of supplying the world's food ...
- ⊕ ... and **becoming more open to trade** would boost economic growth
 - ⊕ and lower poverty in agrarian economies by boosting demand for farm outputs ()



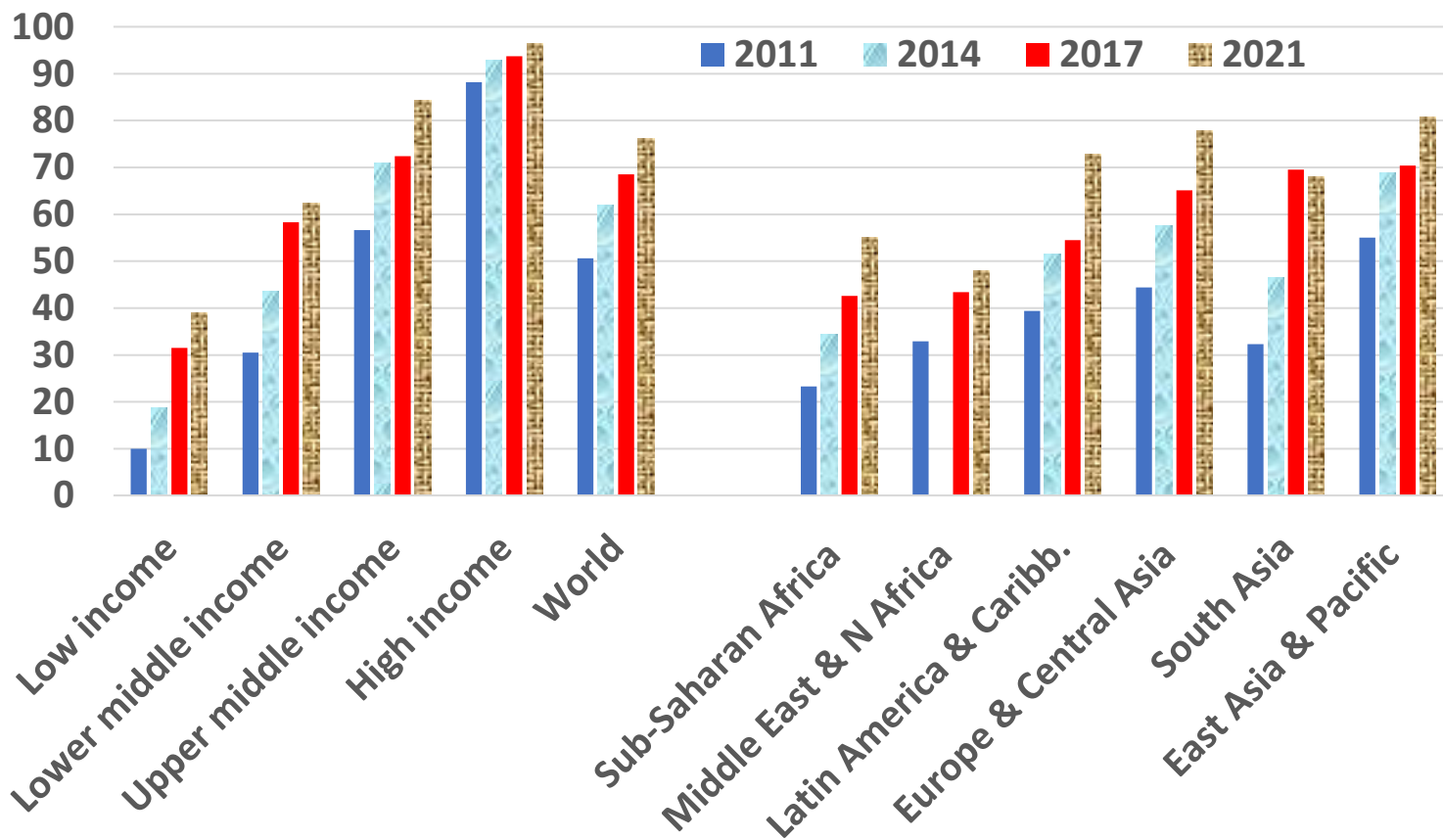
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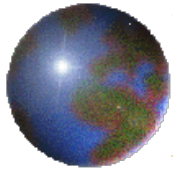
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- ⊕ Thus reducing them would lower the economic & environmental cost of supplying the world's food ...
- ⊕ ... and becoming **more open to trade** would boost economic growth
- ⊕ Govts. could then focus on providing **direct income support** to just neediest farm h'holds
 - ⊕ plus data, info, etc. to **build their resilience**



Share of adults with a bank or mobile-money account (%)

Source: www.worldbank.org/en/publication/globalindex

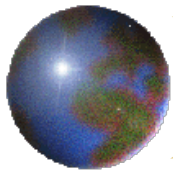




What else is wrong with current ag policies?

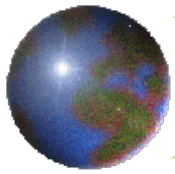
- ⊕ Farm production contributes non-trivially to global environmental damage
 - ⊞ >1/4th of **GHG emissions** (IPCC 2020), and
 - ⊞ key contributor (with deforestation) to **biodiversity loss** (Dasgupta Report 2021)

- ⊕ So farmers need to be **incentivized to mitigate**
 - ⊞ Will happen as carbon taxing and emissions trading become more widespread
 - but much work is needed to improve environmental impact reporting in agrifood systems (Deconinck, Jansen & Barisone 2023)



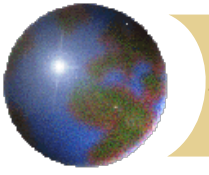
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- ⊕ So farmers need to be **incentivized to mitigate**
- ⊕ **Farmers also need to adapt to climate change**
 - ⊠ CC is **lowering their productivity** (especially in the tropics), thereby **raising consumer prices of food**, and
 - ⊠ it's **adding to volatility** of ag output quantities & prices
 - ⊠ so R&D needs to generate more climate-smart innovations

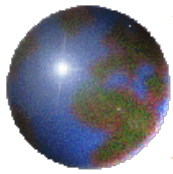


Implications for Crawford Fund

- Keep supporting wider adoption of pertinent farm technologies in DCs
 - Contributes to ag growth and poverty reduction (World Bank 2007; Heady & Hirvonen 2023) and hence improves nutrition
- Complement that with dissemination of alternative policy options in DCs where current policies are wasteful, or where tighter environmental standards are required to retain market access abroad?



Thanks!



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