International agricultural markets, trade and development

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Readings

Some references I will use:

- Brian Copeland and M. Scott Taylor, International Trade and the Environment

Trade and the environment

- Is trade good or bad for the envionment? What is the impact on welfare

International environmental agreements

- How can we encourage the provision of global public goods
- How should international treaties be structured in order to achieve this (examples, Montreal protocol and Kyoto agreement)

Trade liberalization, case I: importing the dirty good

- Importing the dirty good lowers the price of this good domestically
- Because the price falls domestic production of this good will fall
- The result: less pollution
- The effect can be split into two stages: composition effect and scale effect

Trade liberalization, case I: importing the dirty good

- Composition effect: producers shift to producing more of the good whose relative price increases with trade this results in a tendency to les pollution
- Scale effect: trade expands production (of both goods) expanded production of polluting good results in tendency to increased pollution
- Overall effect is less pollution

Trade liberalization, case II: exporting the dirty good

- Exporting the dirty good raises its price domestically
- Producers shift ito producing the dirty good
- Both scale and composition effects lead to an increase in pollution
- Trade liberalisation increases pollution

Environmental policy and trade

- There are different environmental policies that are used fight pollution.
- Environmental taxes
- Cap and trade
- Environmental subsidies
- Environmental policy can affect how trade impacts on environmental quality

Pollution permits

What impact do Cap and trade systems such as the EU ETS scheme (Carbon trading) have on the trade-environment relationship?

What is the ETS?

Launched in 2005, the EU ETS works on the "cap and trade" principle. This means there is a "cap", or limit, on the total amount of certain greenhouse gases that can be emitted by the factories, power plants and other installations in the system. Within this cap, companies receive emission allowances which they can sell to or buy from one another as needed. The limit on the total number of allowances available ensures that they have a value.

Cap and Trade and International Trade

- A cap and trade system effectively limits total emissions with a fixed quantity of pollution permitted
- Liberalising trade increases the demand for pollution permits which rises the price of pollution permits but does not have an impact on the quantity of pollution

Welfare impact

- Change in social welfare=gains from trade+marginal private benefits from polluting ?marginal social cost of polluting
- Gains from trade always positive unless their are scale economies
- If marginal private benefits exceed marginal social costs then pollution is beneficial to society and total impact of trade liberalization is beneficial (strict pollution policy)
- If marginal private benefits is less than marginal social costs then pollution is harmful to society and total impact of trade liberalization is unclear (lax pollution policy)
- Consequence: trade can lead to welfare losses

International environmental agreements and global public goods

- Until now we have examined trade in private goods
- Private goods are good that are rivalrous in consumption and excludable (property rights can be enforced)
- Public goods are neither rivalrous nor exludable in consumption

Global public goods

- Global public goods are public goods that benefit the whole planet
- Examples: the global climate, global health, security
- Public goods are often not provided in sufficient quantity
- This is because we all enjoy the benefits equally independently of how much we contribute to the public good

Global public good provision

- Provision of national or local public goods can be compelled though the power of the state
- Taxation used to finance their provision
- At international level this is not possible ? global public good provision is largely voluntary
- Voluntarily provided public goods suffer in particular from under-provision (free-riding)

Global public goods

- Fighting pandemic diseases requires that all nations contribute and cooperation tends to occur
- Fighting global warming tends to be less successful
- Both are examples of global public goods
- Each country contributes to the provision of these goods more or less and receives a benefit in return
- In this sense global public good provision is analogous to international trade

International Environmental agreements

International envrionmental agreements include:

- The Kyoto agreement on climate change
- The Montreal protocol
- Copenhagen accord complements Kyoto

Kyoto agreement

- Not all countries have ratified this agreement
- Example USA some 172 countries had had ratified with 83 signatories
- Key point: there are signatories and non-signatories
- This creates difficult incentives

Partial agreements

- Non-signatories also benefit from CO2 emissions reductions even though they contribute nothing
- Signatories bear all the cost of emissions reductions even though benefits are shared more or less equally
- Problem is how to encourage outsiders to sign up
- One suggestion is to pay them to join

Rich countries, poor countries and international environmental agreements

- Rich countries can arguably better afford the costs of emissions reductions whereas poor countries can ill afford the costs of complying with emissions reductions
- Again one suggestion is for the rich to compensate the poor in return for greater compliance
- This is not the same as compensating nonsignatories

Conclusion

- We may or may not benefit from trade in environmental goods-it depends on comparative advantage (in the Heckscher-Ohlin sense)
- When pollution has global consequences additional mecanisms such as international environmental agreements are necessary
- These create difficult incentive problems that require some system of international compensation

Thanks for listening!