



Trade and Enterprise Development Team
Sustainable Development & Productivity Division

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Tools for Assessing the Impact of Liberalising Environmental Goods and Services

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League of Arab States – Cairo, Egypt
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This presentation

The following acronyms
will be used :

EGS – Environmental Goods & Services

EG – Environmental Good

ES – Environmental Service

EGTL – EG Trade Liberalisation

EGS Trade Liberalisation

Why:

- Doha Mandate
enhance the mutual supportiveness of trade and environment

What's involved:

- Worldwide reduction of EG tariffs
- Significant opening of ES sectors to foreign presence

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EGS Trade Liberalisation & ESCWA

Future expectations:

Regional demand for ES (high)

- Regional EGS supply (growing)
- EGS imports from ROW (↑)
- EGS availability & infrastructure (improve)
- EGS costs (↓)

World demand for ES

- ESCWA EGS exports (↑)

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EGS Trade Liberalisation & ESCWA

Assessment tools:

- Data on regional EGS demand
- Country experiences with ES liberalisation (Qatar, UAE, SA, Oman, Jordan, Kuwait, Morocco)
- Data on EG trade (ESCWA and ROW)
- Data on EG tariffs (ESCWA and ROW)
- *State of Play* in EGS negotiations



Data analysis, interpretation and modelling

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EGS Trade Liberalisation & ESCWA

Results:

- We can infer the direction and magnitude of static effects (immediate)
Such results can guide negotiation strategies
- We can say little about much more important dynamic effects (long term)
- But supportive national and regional policies should be developed to encourage net economic gains, including by developing regional supply capacities for ES and productive capacities for EGs

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New ESCWA Study

- Reviews regional trends related to water, energy and solid waste management, and related market requirements for EGS
- Examines the potential of international trade to help meet these requirements, build EGS supply capacities, and generate EGS export opportunities for the region
- Discusses implications of multilateral EGS negotiations for regional markets
- [Available soon on ESCWA website](#)

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This presentation

In the short time we have available today, we will look at

Trade Liberalisation in Environmental Goods

and discuss implications for the region

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Today's Discussion

- The Doha Mandate on environmental goods (EGs) and the WTO CTE negotiations
- What is an EG ? – *no agreement*
- Proposed EGs
- Trade in EGs – *Trade flows and tariffs*
- Dynamic gains for Trade Liberalisation (TL)
- Trade complementarity among ctys ?
- Modelling TL in EGs – preliminary results
- The Outlook for ESCWA Countries
- Recommendations for the negotiations

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Doha Mandate on EGs

WTO Doha Ministerial Declaration (2001)

- *commitment to sustainable development (SD)*
- *mutually supportive T&E policies*
- *a share in the growth of world trade for DCs commensurate with the needs of their economic development*
- *enhanced market access for DCs*
- *less than full reciprocity in reduction commitments*

**Any agreement on EGs
should reflect these principles**

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Doha Mandate on EGs

- The Doha Declaration calls for negotiations on "the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services"

But without defining what these goods are !

- The WTO Committee on Trade and Environment (CTE) seeks to define EGs
- However, despite over four years of CTE negotiation on environmental goods, WTO members have been unable to agree on a definition of environmental goods or an agreed list of such goods

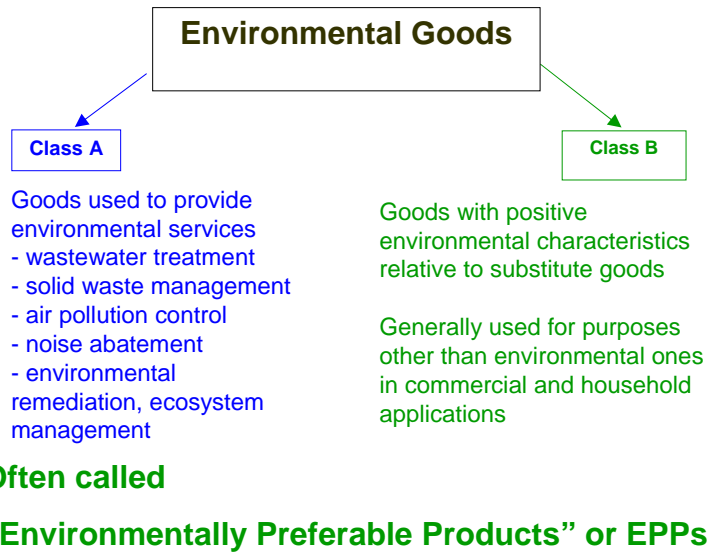
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What is an EG ?

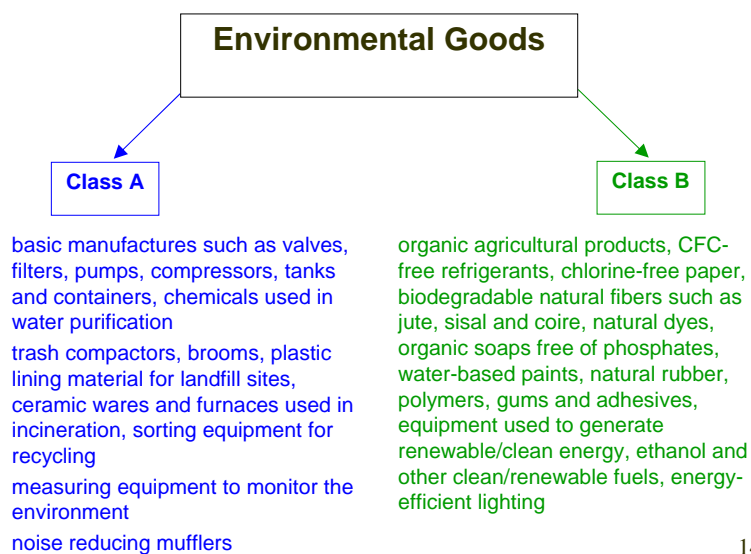
- There are two broad classes of environmental goods under discussion in WTO negotiations
- Manufactured goods and chemicals used directly in the provision of environmental services
- Raw and manufactured goods not associated with providing environmental services. They have reduced negative, or positive, effects on the environment
- All EGs belong to one of these two classes

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What is an EG ?



What is an EG **Some examples**



What is an EG Likely WTO outcome

- It is rather straightforward to identify and agree upon Class A EGs – a good is either used or not used in providing an environmental service
- It is much more difficult to identify and agree upon the environmental benefits of Class B EGs since this depends on product lifecycle analysis – unavailable for most EPPs and associated with uncertain, subjective and incomplete results
- It is thus likely that most EGs identified for tariff reduction by the WTO will be Class A EGs, at least in the near term

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Proposed EGs

- After over 4 years of negotiations, WTO members have been unable to agree on an operational definition for EGs
- A list approach has been pursued
- Developed country members have proposed EG lists
- These lists contain mostly Class A EGs with some Class B EGs (EU, Switz.)
- Developing country members have yet to propose lists of their own (ex. Qatar, Korea, Taiwan)

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Proposed EGs

- The OECD and APEC lists of EGs contain the Class A EGs proposed by developed country members
- UNCTAD had developed a list of Class B EGs (i.e., EPPs) that are not based on PPMs
- PPMs (Process and Production Methods) describe how a good is produced in the exporting country (e.g., environmentally benign or damaging production)
- WTO rules do not allow members to distinguish between similar products based on PPMs

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Proposed EGs

- *Recent* negotiations were examining all proposed and other potential EGs to develop a final list for negotiations on modalities
- 'Modalities' is negotiators' jargon for levels of tariff cuts on EGs, timeframes for reductions, and exclusions/special conditions for developing countries
- Reports from Geneva indicate little progress was made before negotiations were suspended in July 2006

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Proposed EGs **Why no progress ?**

- Developing countries argue that few goods on the OECD and APEC list are of export interest to them – so they will gain little from tariff reductions and potentially lose a lot
- Many developing countries are thus waiting to see the outcome of other negotiations before conceding to agreements in EG negotiations
- Many countries argue that most EGs have multiple uses, only one of which is environmental
- Some developing countries would like to see PPM-related EGs liberalised (e.g., organic food) but fear proposing them

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EG Trade **Trade flows and tariffs**

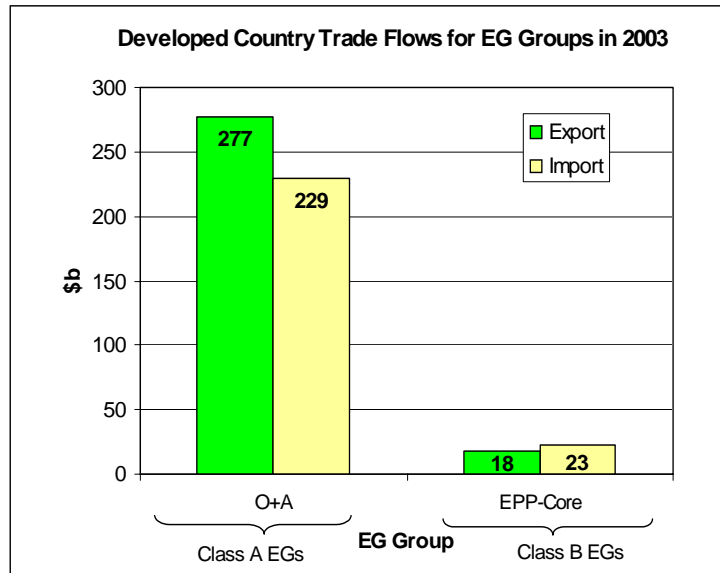
- We examine trade in the Class A EGs including all of the OECD and APEC listed goods
We call these O+A EGs
- We further examine the flows of Class B EGs, or EPPs, as compiled by UNCTAD
We call these EPP-core EGs
- Also, we will look at current levels of tariff protection applied to these goods
- A special examination is made of ESCWA Country trade flows and tariffs

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EG Trade

Trade flows

Developed countries have a large trade surplus in Class A EGs used to provide environmental services

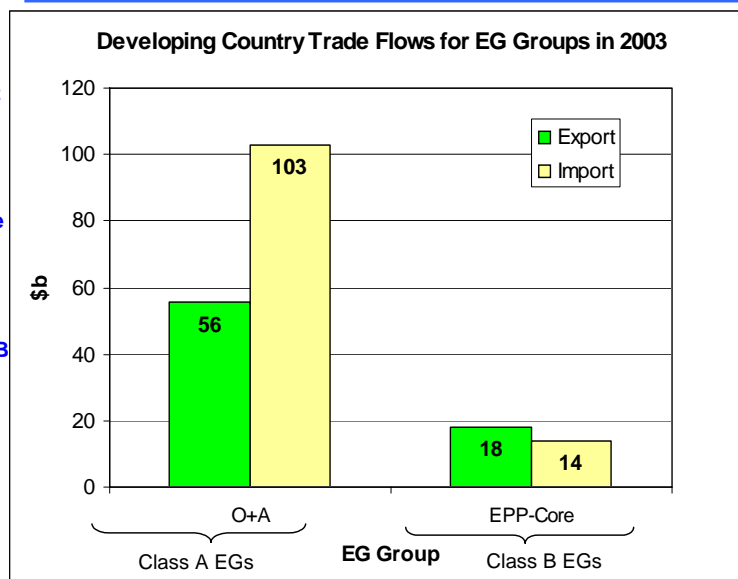


EG Trade

Trade flows

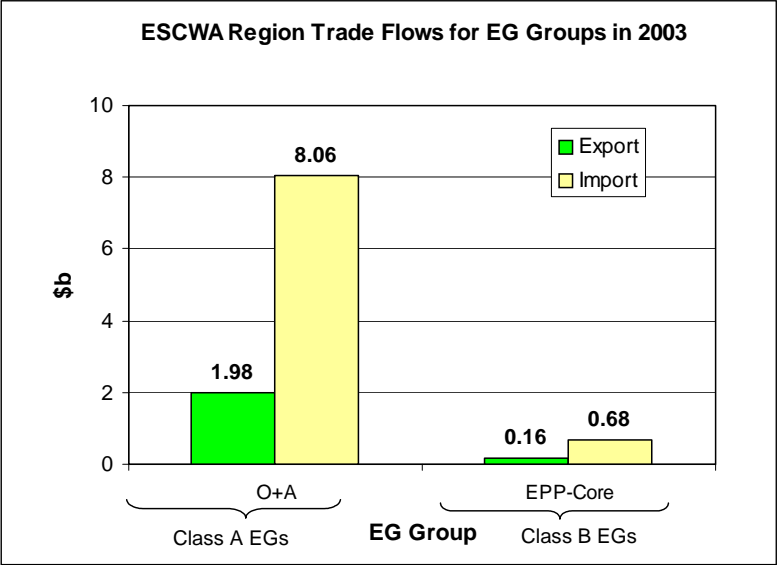
Developing countries have a large trade deficit in Class A EGs used to provide environmental services – none among them have a trade surplus !

Although they have a trade surplus in Class B EGs (EPPs) it is not remarkably large, and it is only enjoyed by relatively few developing countries



EG Trade

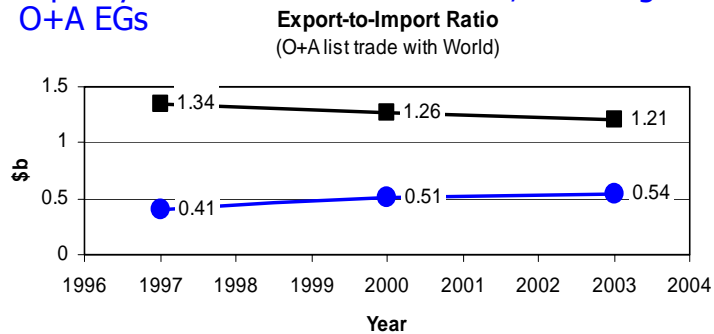
Trade flows



EG Trade

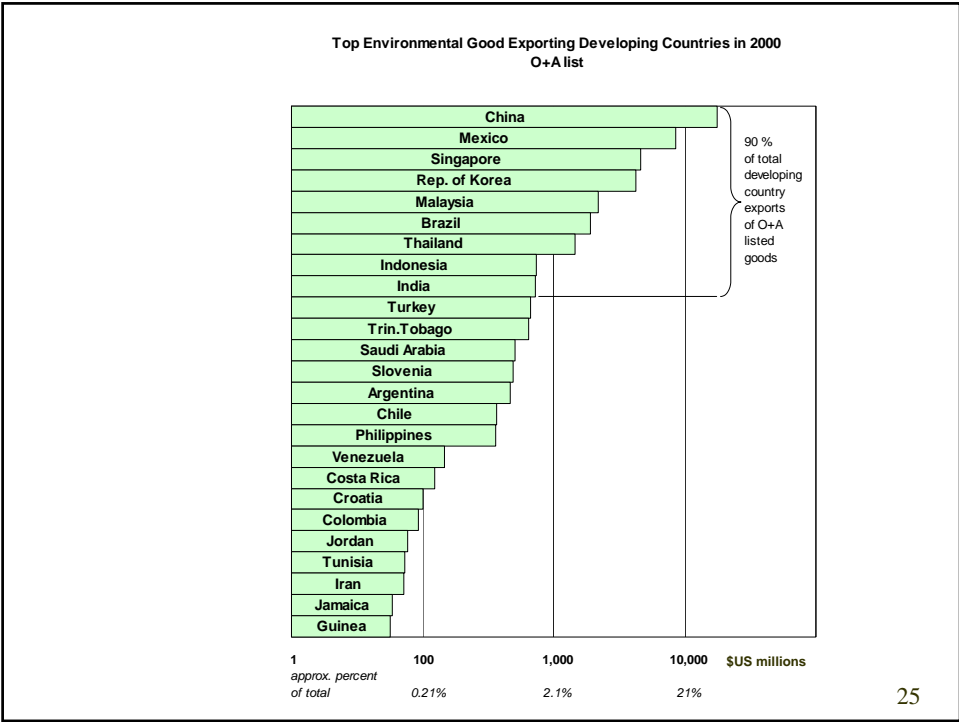
Trade flows

- But developing countries are building export capacity in industrial manufactures, including in O+A EGs



As this capacity grows, developing countries' trade balance shows steady improvement

Yet this largely reflects the performance of the more industrialised developing countries such as Korea, Taiwan, China, Malaysia, Brazil, Thailand, Turkey, Mexico, etc.



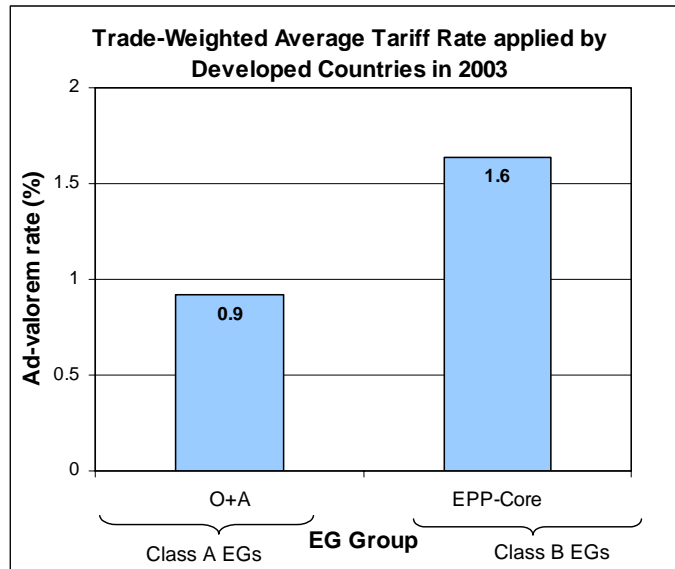
- Top Environmental Good Exports of Developing Countries in 2000**
O+A list
- 1) 392690 Other articles of plastic
 - 2) 847989 Other machines, nes, having individual functions
 - 3) 854389 Other electrical machines and apparatus with one function
 - 4) 848180 Other taps, cocks, valves, etc.
 - 5) 854140 Photosensitive semiconductor devices, incl. solar cells
 - 6) 840999 Parts for diesel or semi-diesel engines
 - 7) 840991 Parts for internal combustion piston engines
 - 8) 841430 Compressors of a kind used in refrigerating equipment
 - 9) 392490 Household & toilet articles of plastic
 - 10) 847990 Parts of machines (of heading 8479)
 - 11) 903289 Other automatic regulation, control instruments
 - 12) 847290 Other office machines
 - 13) 290511 Methanol
 - 14) 903180 Other measuring or checking instruments
 - 15) 392020 Polypropylene sheeting
 - 16) 841480 Other air or gas compressors or hoods
 - 17) 841490 Parts for air or gas compressors, fans or hoods
 - 18) 281410 Anhydrous ammonia
 - 19) 903210 Thermostats
 - 20) 853931 Fluorescent lamps
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EG Trade

Tariffs

Tariffs are very low, but non-tariff barriers (NTBs) are significant, often in the form of technical standards

Quotas and specific tariffs are also present

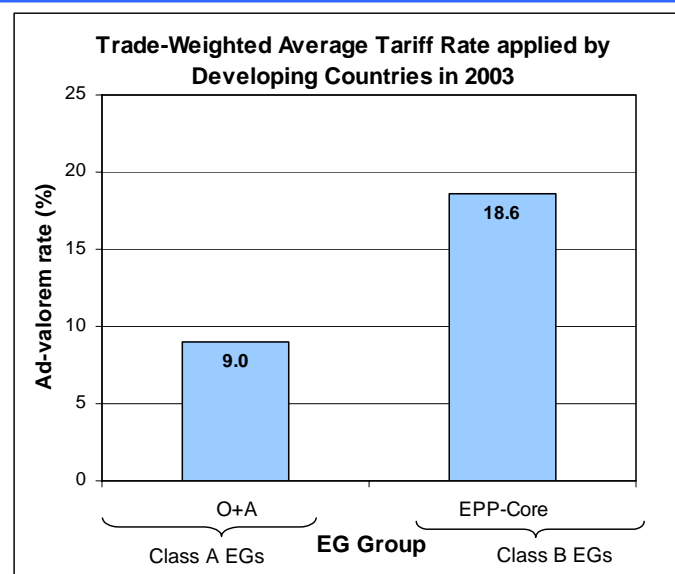


EG Trade

Tariffs

Tariffs are quite high, but non-tariff barriers (NTBs) are less significant

High tariffs may be discouraging South-South trade



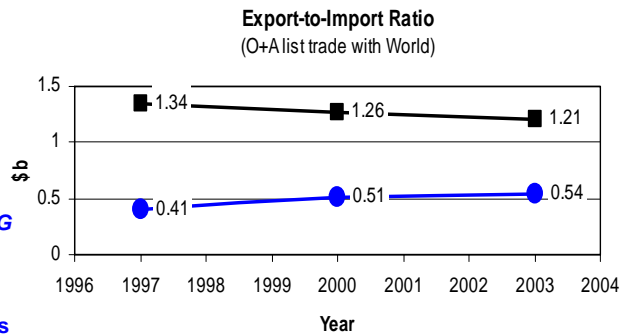
Dynamic gains

- We saw that developing countries are building export capacity in industrial manufactures, including in O+A EGs

Although developing countries have a sizable trade deficit in O+A EGs their exports are growing rapidly

This suggests that O+A EG exports may be dynamic

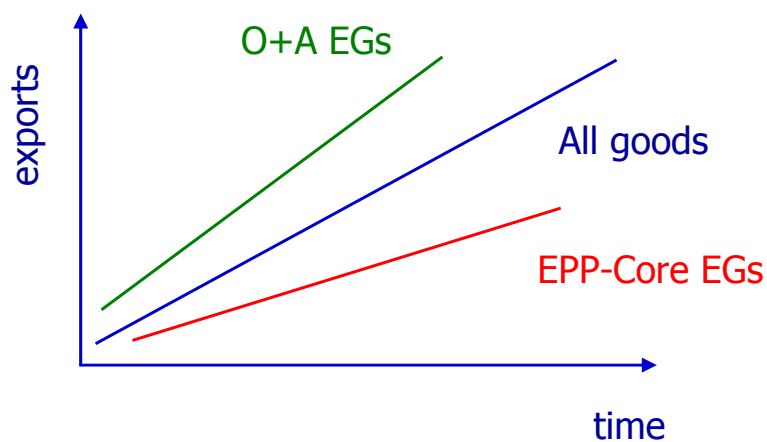
Tariff reductions may stimulate increased exports and hence production, employment and economic growth



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Dynamic gains

- Developing country export growth rates for EGs compared to overall export growth rates



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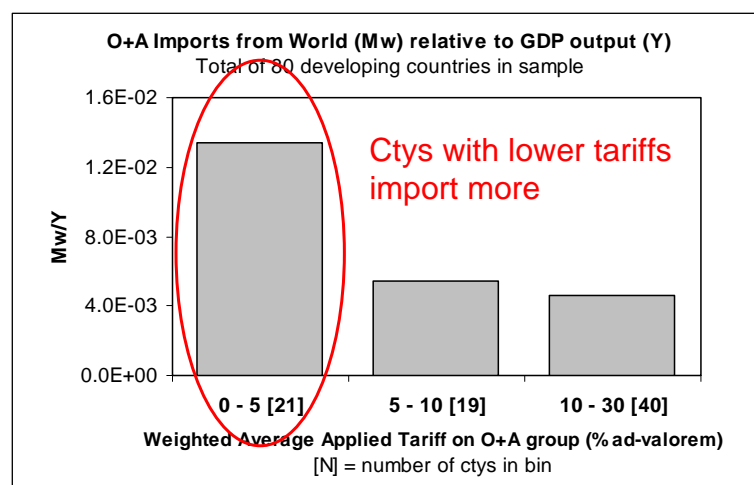
Dynamic gains

- Developing countries have a trade surplus in Class B EGs and a trade deficit in Class A EGs
- Nevertheless, developing countries' total exports of **Class B EGs** rose from 13 \$b to only 18 \$b between 1997 and 2003, while exports of **Class A EGs** more than doubled from 27 \$b to 56 \$b
- The annual growth rate of developing country exports for **Class B EGs** over this period was only 8.7%, lower than that of world exports (9.8%), and significantly lower than the 12.5% growth rate for **Class A EGs**

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Dynamic gains

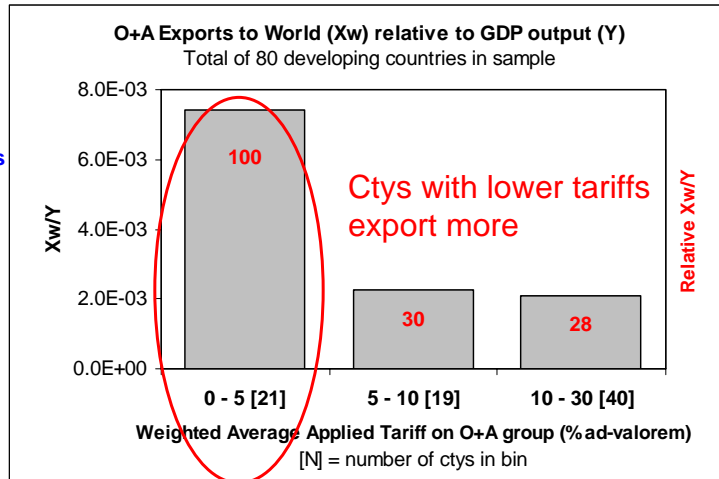
- Statistically, countries with lower tariffs on O+A EGs have better trade performance



Dynamic gains (cont'd)

Lower tariffs thus appear to be associated with more trade in these goods, not only increased imports, but enhanced exports as well

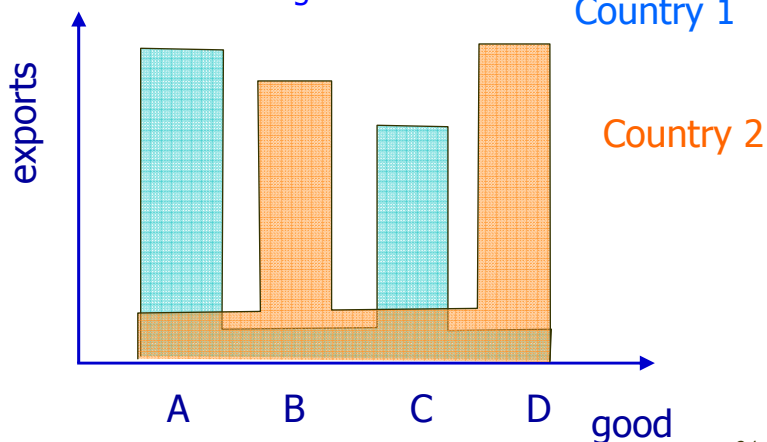
Lower tariffs are associated with higher levels of intra-industry trade suggesting that countries with low tariffs may beneficially participate in international production chains



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Trade Complementarity

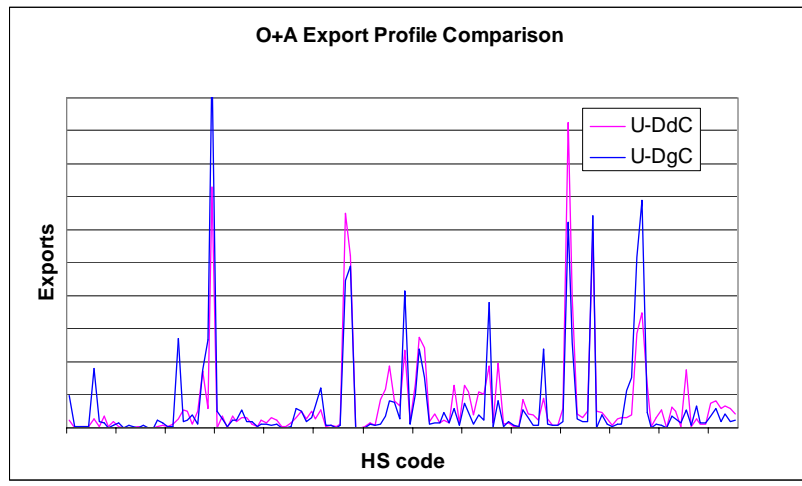
- This occurs due to trade specialisation, different countries tend to have export strengths in different sets of goods



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Trade Complementarity

- The O+A export profiles of developed and developing countries are fairly similar



Trade Complementarity

- But the O+A export profiles of different developing country regions are quite different

Parameter ranges from 0 to 100

0 – perfect complementarity – countries export different sets of goods

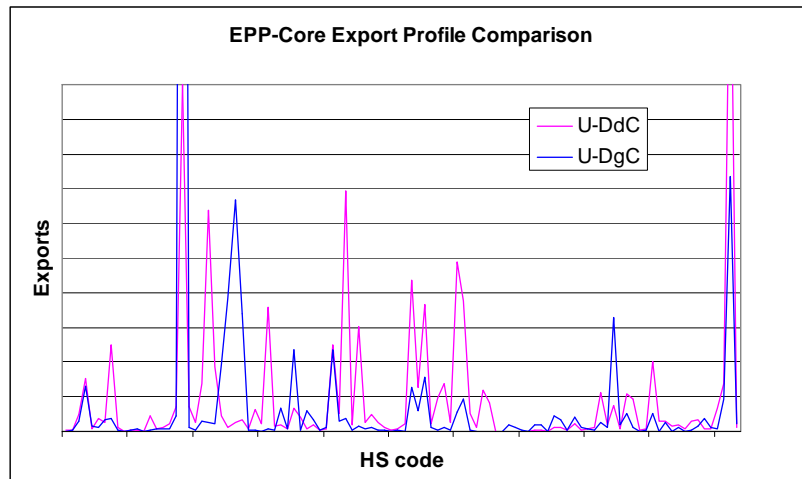
100 – zero complementarity – countries export the same set of goods

EG group: O+A
Period: 2003

	U-DdC	U-DgC	U-DgAFR	U-DgASO	U-DgLAC	U-CET
U-DdC	72	38	69	60	53	
U-DgC	72		39	87	68	51
Africa U-DgAFR	38	39		35	36	33
Asia U-DgASO	69	87	35		56	46
Lat. Am. & Car. U-DgLAC	60	68	36	56		55
U-CET	53	51	33	46	55	

Trade Complementarity

- The EPP export profiles of developed and developing countries are quite different



Trade Complementarity

- But the EPP export profiles of different developing country regions are fairly similar

EG group: EPP-Core
Period: 2003

	U-DdC	U-DgC	U-DgAFR	U-DgASO	U-DgLAC	U-CET
U-DdC		38	19	38	45	51
U-DgC	38		56	91	62	19
Africa U-DgAFR	19	56		48	49	8
Asia U-DgASO	38	91	48		61	18
Lat. Am. & Car. U-DgLAC	45	62	49	61		28
U-CET	51	19	8	18	28	

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Trade Complementarity

- Trade liberalisation of **O+A EGs** can increase South-South trade, but there will be some sensitive products – different for each developing country – whose producers may suffer from increased imports from the North
- **Dynamic gains are expected**
- Trade liberalisation of **EPP EGs** can increase South-North trade, but with continued competition among developing countries to access Northern markets
- Some increase in South-South trade should occur
- **Dynamic gains are much more limited**

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Modelling TL in EGs

- We used a global partial equilibrium model (GSIM) to estimate the effects of tariff reductions on EG trade (details available)
- The model was applied to aggregate world regions and the two Class A (O+A) and Class B (EPP-core) groups of EGs
- A 50% tariff reduction on EGs was assumed globally in each region
- The model predicts the 'static' *ex post* effects of the tariff reductions

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Modelling TL in EGs

For the O+A EG group:

- GSIM results suggest an increase in production and exports for all regions
- Exports increase by 1 to 2% in developed countries, East Asia and Eastern Europe, and by less than 1% elsewhere
- Tariff revenue loss is significant in all regions, but net welfare gains (for producers and consumers) remain positive all developing country regions

There will be no trade disasters !

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Modelling TL in EGs

For the EPP-core EG group:

- GSIM results suggest an increase in production and exports for all regions
- Exports increase by 2 to 3% in developed countries, Asia and LAC, and by less than 1% elsewhere
- Tariff revenue loss is significant in all regions, but net welfare gains (for producers and consumers) remain positive for all developing country regions

There will be no trade disasters !

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The Outlook for ESCWA Countries

→ Looking specifically at what's happening in the region

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The Outlook for ESCWA Countries

- We examined the trade flows and tariffs of O+A and EPP-core EGs for ESCWA Countries (details available)
- We further examined the trade in natural gas fuels as an EPP (proposed by Qatar); a major export for some ESCWA Countries
- Data are nationally reported data from Comtrade (UNSD) for trade flows and WITS (World Bank/UNCTAD/UNSD) for applied tariffs

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The Outlook for ESCWA Countries

Data limitations:

- Unfortunately, there are inconsistencies in reporting with many ESCWA Countries reporting sporadically and only for selected goods
- Only Lebanon, Jordan and Egypt seem to report consistently and completely

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The Outlook for ESCWA Countries

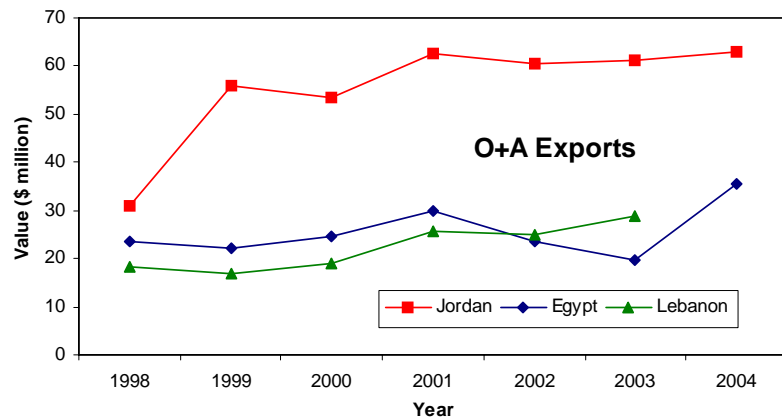
O+A - Limited data suggests:

- O+A EGs account for 4% of ESCWA imports, but only 2% of ESCWA non-fuel exports (2003)
- Chemicals account for the major share of ESCWA O+A exports
- Data for Bahrain, Kuwait, Qatar and Saudi Arabia show they are major world exporters of two O+A chemical goods (Methyl Alcohol and Anhydrous Ammonia)
- Only Egypt, Jordan, Lebanon and Syria exhibit significant diversified exports of O+A manufactured goods

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The Outlook for ESCWA Countries

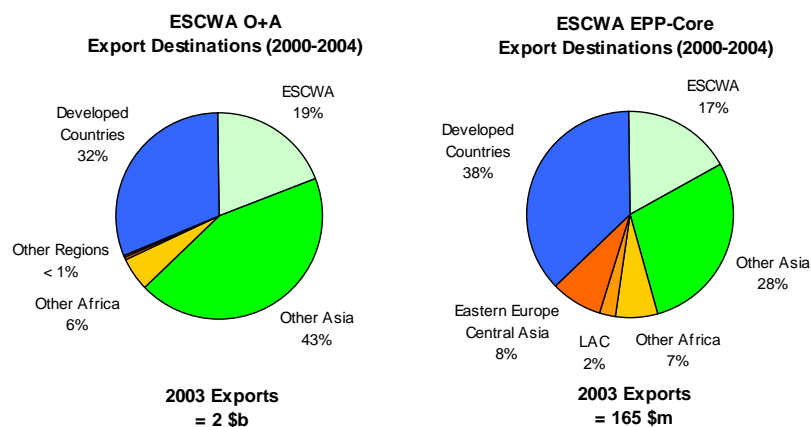
- Egypt (4%), Jordan (7%) and Lebanon (11%) all exhibit steady annual growth in O+A exports



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The Outlook for ESCWA Countries

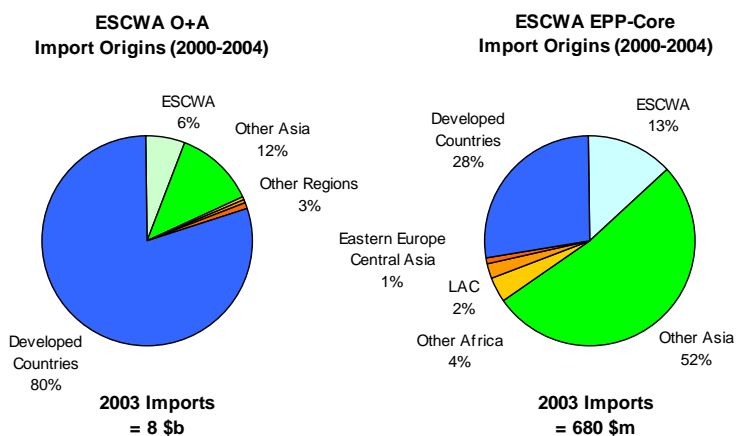
- Large share of EG exports to ESCWA and Other Asia



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The Outlook for ESCWA Countries

- However, O+A imports remain predominantly from developed countries



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The Outlook for ESCWA Countries

- Top O+A Trade of the Mashreq Countries

Top 5 O+A Exports of the ESCWA Countries

(latest available data given, totals are value of top 5 exports / imports as percentage of total O+A exports / imports)

ESCWA Country (year)	Trade Flow	HS 1996 code	Product	Value (\$US)	
Mashreq Countries (2004)	Exports	392690	Plastic articles nes	19'346'923	
		392020	Sheet/film not cellular/reinf polymers of propylene	12'342'561	
		841381	Pumps nes	12'293'475	
		854389	Other electrical machines and apparatus with one function	7'737'414	
		320990	Polymer based paints & varnishes nes, aqueous medium	5'454'668	
	Total value of top 5 exports as percentage of total O+A exports				48
	Imports	847989	Machines and mechanical appliances nes	167'925'065	
		848180	Taps, cocks, valves and similar appliances, nes	69'121'893	
		392690	Plastic articles nes	56'388'529	
		392020	Sheet/film not cellular/reinf polymers of propylene	44'201'938	
		841381	Pumps nes	41'116'914	
Total value of top 5 imports as percentage of total O+A imports				39	

Multiple-use... HS 392690 covers screens & strainers and household waste collection eqpt., HS 847989 covers recycling eqpt., but much more than that too...

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The Outlook for ESCWA Countries

– Top O+A Trade of the Gulf Countries

Top 5 O+A Exports of the ESCWA Countries

(latest available data given, totals are value of top 5 exports / imports as percentage of total O+A exports / imports)

ESCWA Country (year)	Trade Flow	HS 1996 code	Product	Value (\$US)	
Gulf Countries (2002)	Exports	290511	Methyl alcohol	509'080'207	
		281512	Sodium hydroxide (caustic soda) in aqueous solution	87'764'965	
		281410	Anhydrous ammonia	46'971'974	
		701990	Glass fibres, glass wool and articles thereof nes	27'116'245	
		841989	Machinery for treatment by temperature change nes	13'164'066	
	Total value of top 5 exports as percentage of total O+A exports				43
	Imports	841430	Compressors for refrigerating equipment	202'434'167	
		848180	Taps, cocks, valves and similar appliances, nes	151'636'043	
		848110	Valves, pressure reducing	101'561'834	
		840991	Parts for spark-ignition engines except aircraft	100'627'516	
841381		Pumps nes	85'288'452		
Total value of top 5 imports as percentage of total O+A imports				76	

Multiple-use... HS 701990 covers glass fibres used as air filters, HS 840991 covers noise reduction eqpt. for engines, but much more than that too...

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The Outlook for ESCWA Countries

EPP-core - Limited data suggests:

- EPP EGs account for 1% of ESCWA imports, but as much as 4% of ESCWA exports (2000-2003)
- Plants and natural fibres account for the major share of ESCWA EPP-core exports
- Data indicate that Egypt and Syria are major exporters of EPP-core goods, followed by Jordan, Oman and Lebanon which have significant exports
- Only Egypt exhibits a positive trade balance for EPP-core trade

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The Outlook for ESCWA Countries

– Top EPP-Core Exports of the Mashreq Countries

Top 10 EPP-Core Exports of the ESCWA Countries
(latest available data given, totals are value of top 5 exports / imports as percentage of total O+A exports / imports)

ESCWA Country (year)	Trade Flow	HS 1996 code	Product	Value (\$US)
Mashreq Countries (2003)	Exports	121190	Plants & parts, pharmacy, perfume, insecticide use nes	2'339'273
		530110	Flax fibre, raw or retted	8'138'308
		530129	Flax fibre, otherwise processed but not spun	6'913'574
		321000	Paints and varnishes nes, water pigments for leather	3'825'896
		230690	Vegetable oil-cake and other solid residues nes	2'713'637
		530121	Flax fibre, broken or scutched	2'200'893
		121110	Liquorice roots	1'949'926
		320910	Acrylic & vinyl polymer based paint, varnish, in water	1'667'645
		510129	Degreased wool nes, not carded, combed or carbonized	1'658'772
		460120	Mats, matting and screens, vegetable plaiting material	1'479'153
Total value of top 10 exports as percentage of total EPP-Core exports				80

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The Outlook for ESCWA Countries

– Top EPP-Core Exports of the Gulf Countries

Top 10 EPP-Core Exports of the ESCWA Countries
(latest available data given, totals are value of top 5 exports / imports as percentage of total O+A exports / imports)

ESCWA Country (year)	Trade Flow	HS 1996 code	Product	Value (\$US)
Gulf Countries (2002)	Exports	630510	Sacks & bags, packing, of jute or other bast fibres	5'833'797
		320910	Acrylic & vinyl polymer based paint, varnish, in water	3'250'811
		570110	Carpets of wool or fine animal hair, knotted	3'190'709
		310100	Animal or vegetable fertilizers, in packs >10 kg	3'074'114
		510111	Greasy shorn wool, not carded or combed	2'629'116
		560890	Knotted netting, nets, of of natural materials	1'540'823
		510129	Degreased wool nes, not carded, combed or carbonized	1'525'770
		510119	Greasy wool (other than shorn) not carded or combed	1'481'686
		960310	Brooms/brushes of vegetable material	1'125'904
		850680	Primary cells & primary	1'065'001
Total value of top 10 exports as percentage of total EPP-Core exports				74

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The Outlook for ESCWA Countries

- ESCWA Countries are major world exporters of low emission fuels

2003

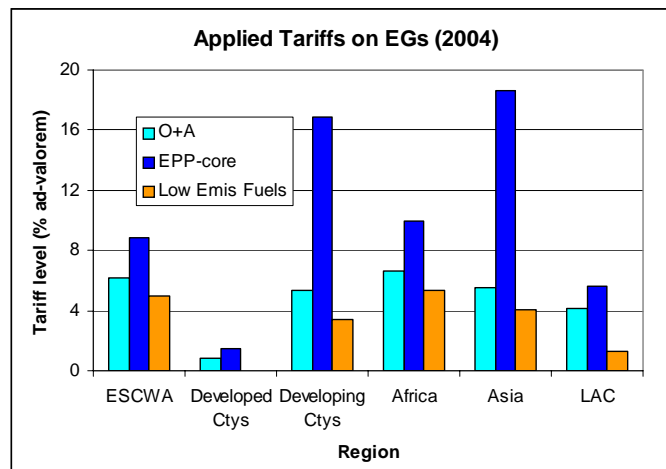
ESCWA low emission fuels exports	HS96	Exports (\$)
Natural gas, liquefied	271111	9,469,071,814
Natural gas in gaseous state	271121	3,682,193,920
Propane, liquefied	271112	1,813,584,523
Butanes, liquefied	271113	1,087,236,564
Sunflower seeds	120600	2,262,663
Undernaturated ethyl alcohol > 80% by volume	220710	1,197,376
Copra	120300	395,055
Beet-pulp, bagasse & other waste of sugar m	230320	199,799
Linseed	120400	121,821
Rape or colza seeds	120500	6,849
Ethylene, propylene, butylene, butadiene, liqu	271114	1,167

These goods may be included as WTO EGs

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The Outlook for ESCWA Countries

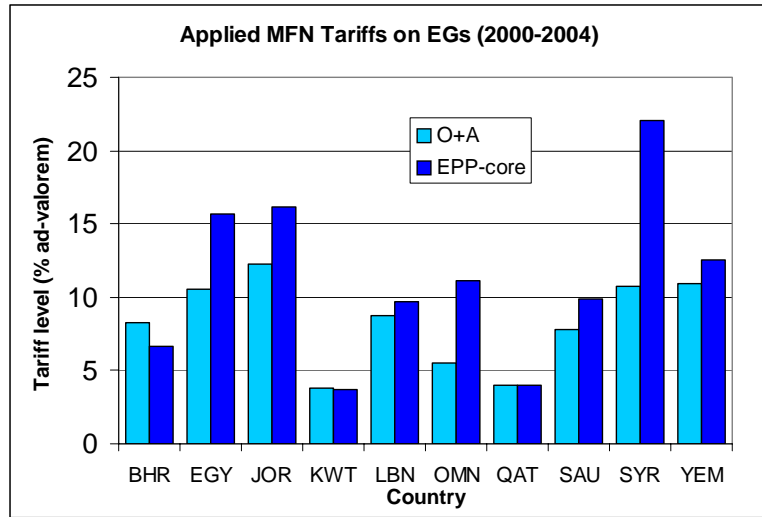
- Applied tariffs on EGs are not very high in ESCWA Countries



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The Outlook for ESCWA Countries

- Egypt, Jordan and Syria maintain the highest



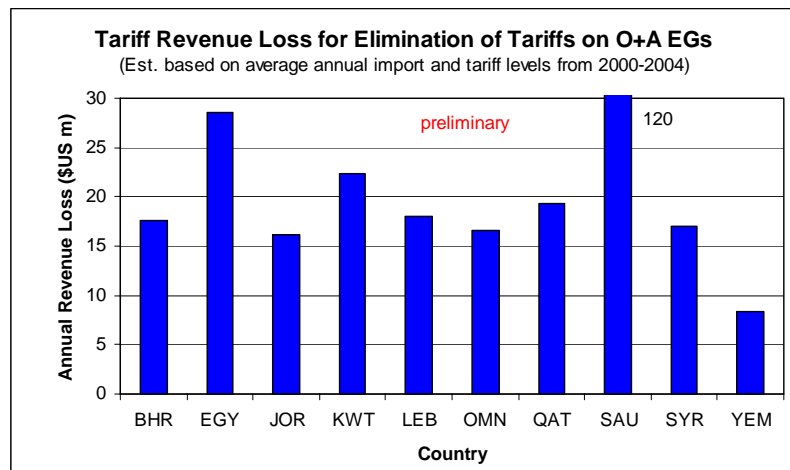
The Outlook for ESCWA Countries

- We estimated tariff revenue loss under EGTL for a hypothetical case wherein O+A tariffs are eliminated completely
- This is an extreme scenario since tariffs will likely be reduced rather than eliminated completely

The Outlook for ESCWA Countries

Annual tariff revenue loss estimates

Extreme scenario (based on 2000-2004 data)



The Outlook for ESCWA Countries

Losses easy to measure and predict...
tariff losses are eminent

Gains difficult to predict...
only the future can tell

May outweigh costs in long run but this can not be assured

Suggests the need for ESCWA countries to seek concessions in other areas of Doha Round negotiations if they concede to EGTL

- For EGTL to constitute a **net gain**, tariff revenue losses will need to be offset by:
- Increases in EG exports due to lower tariffs in other developing countries (developed country tariffs already low) *dynamic exports, complementarity*
- Lower costs for consumers and improved environmental conditions (welfare gain) *yes*
- Lower production costs for producers (many EGs are intermediate goods used in production) *yes*
- Spill-over benefits of increased technology transfer *yes*

Recommendations for negotiations

- Proceed with EGTL negotiations and ensure that **both** O+A and EPPs (natural products and low emission fuels) are liberalised *make sure key exports on list*
- Consider EGTL as a self-contained testing ground for broader NAMA TL (recall that EGs make up only some 4% of ESCWA imports) *limit tariff reductions on sensitive products*
- Phase in tariff reductions over time to reduce shocks (to both government revenue and import competing industries) *for all EGs*

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Recommendations for negotiations

- Decide whether to address or simply ignore multiple use aspect of many EGs *ignoring multiple use may improve competitiveness of domestic producers sourcing inputs for production from abroad*
- Seek concessions from developed countries in other areas of the negotiations *Developed countries want to increase their EGS exports to ESCWA countries, they will make concessions*
- Make sure your concerns are known *Be more vocal in Geneva*

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