Climate change: Trade policy and modelling

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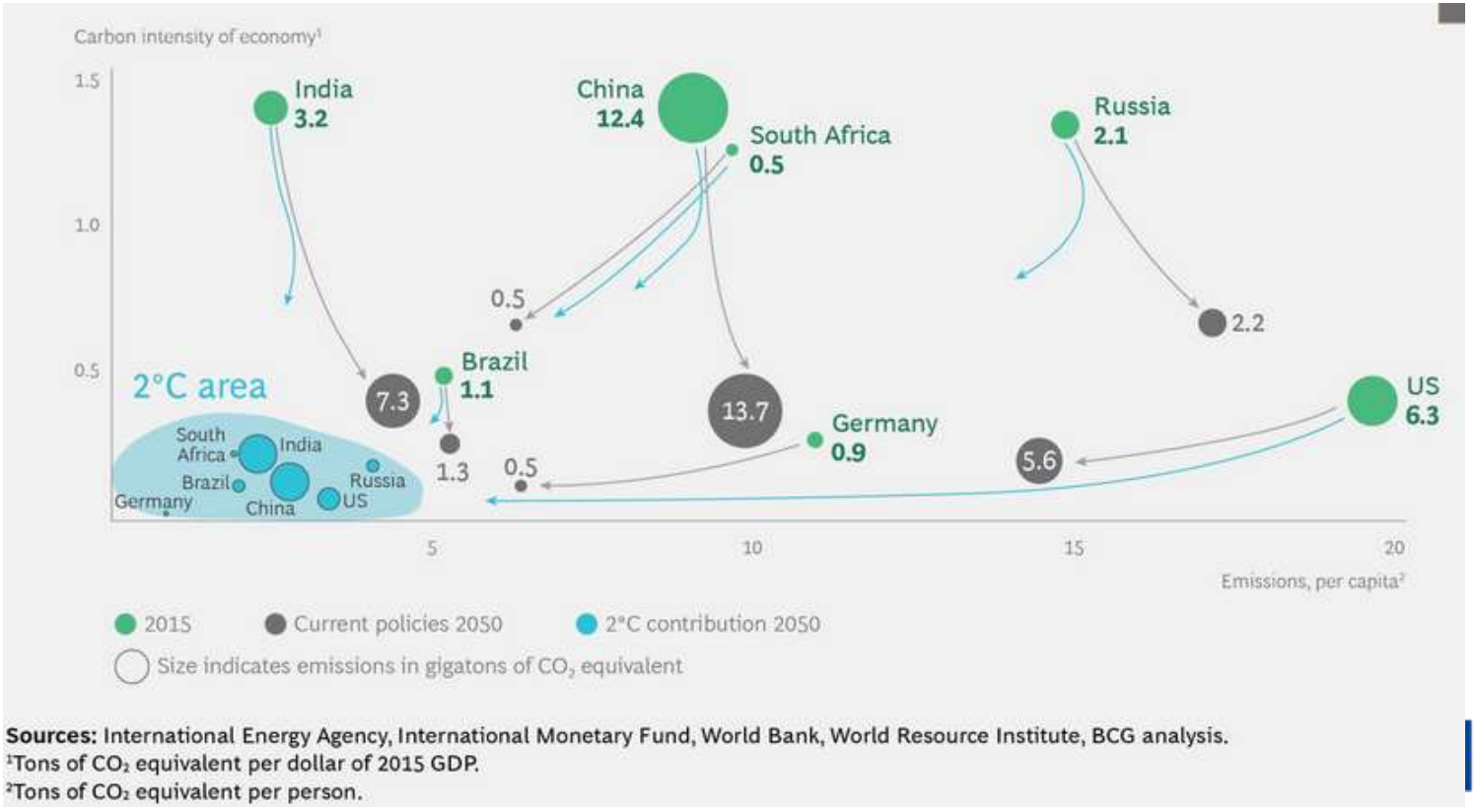
Climate change: country specific policies

- *The global diversity of economic, demographic, geographic, and technical circumstances affecting climate change mitigation—and reveal many of the issues that ambitious mitigation paths face.*
- *For instance, developed nations must accelerate their decline in per capita emissions. Most developing countries, need to change direction vs employing carbon-intensive technologies*



Sources: International Energy Agency, International Monetary Fund, World Bank, World Resource Institute, BCG analysis.
¹Tons of CO_2 equivalent per dollar of 2015 GDP.
²Tons of CO_2 equivalent per person.

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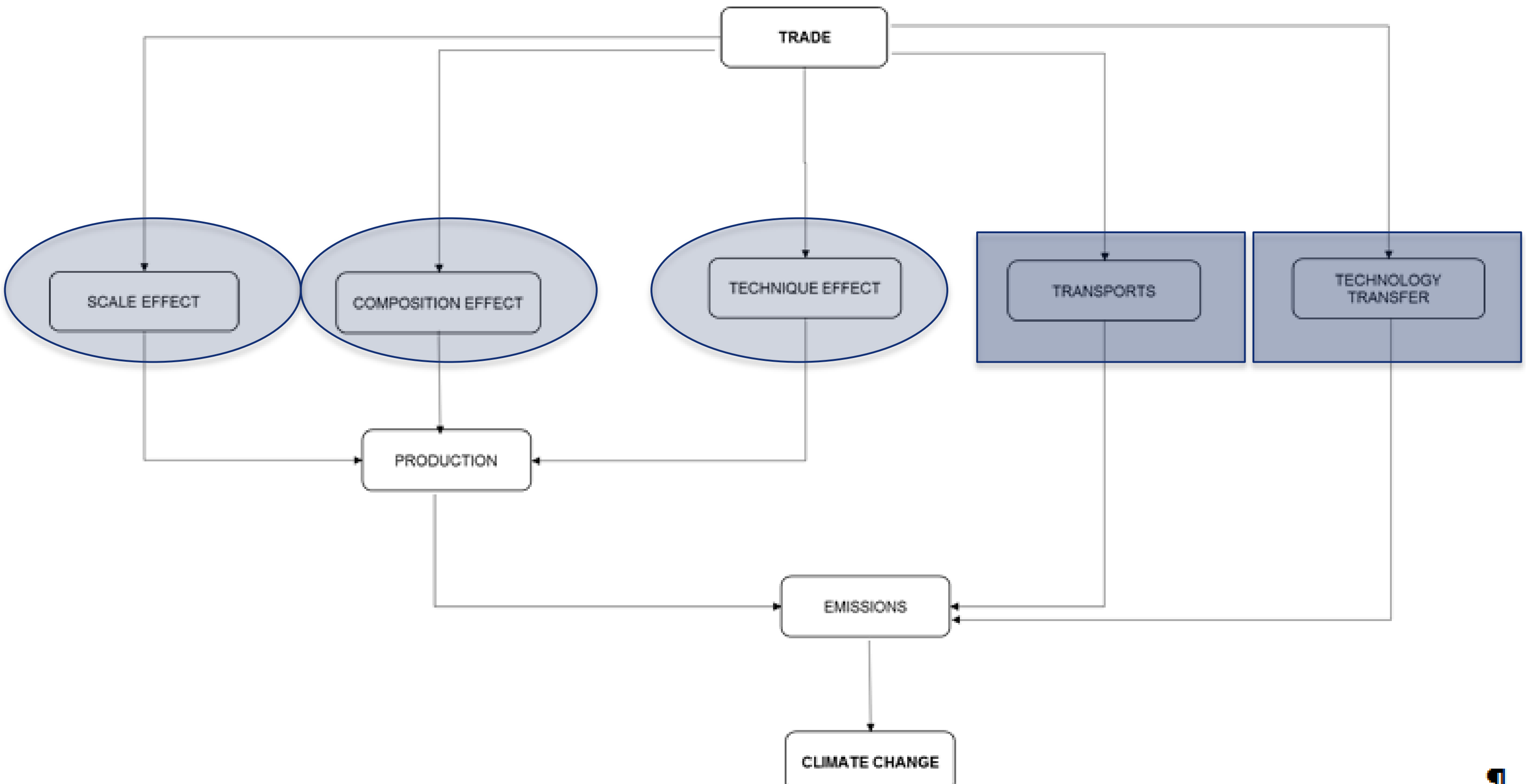
Climate change: trade modelling issue

We know that trade and climate change, directly or indirectly, are linked: not easy to capture

Figure 1 – The effects of trade on climate change¶



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Climate change and trade policy

Trade policy issues:

- *tariff should be linked to the* carbon intensity of domestic production or on the basis of the emission intensity in the exporting country? (ideally life cycle..)

- *eliminating carbon leakage or preserving domestic firms' competitiveness?*

Results, and then size of BTA could be different… in the Leakage scenario guarantees the lowest rate of carbon leakage, although. Some countries, such as China, India and SouthAfrica, substantially reduce their emissions, i.e. by contraction of their industrial sector (high welfare losses), i.e. higher equivalent tariffs.

Ad valorem carbon tariffs for alternative scenarios.[a]
Source: elaborations on model results.

	KT-TCC	KT-TCCNK	KT-LEAK	KT-COMP
Agriculture	1.11	1.15	21.42	0.36
Chem., rubb., plast.	0.71	2.15	14.47	3.32
Metal products	0.62	1.97	14.40	2.10
Mineral products	1.87	5.13	19.42	4.79
Oil products	1.03	2.90	8.12	8.78
Paper products	0.38	1.10	10.68	0.98
Average energy intensive sectors	*0.92*	*2.65*	*13.42*	*3.99*
Electrical equipment	0.04	0.12	9.60	0.37
Food industry	0.23	0.33	14.30	0.16
Machinery equipment	0.07	0.29	12.54	0.52
Motor vehicles[b]	0.05	0.11	11.14	−0.14
Other manufacturing	0.08	0.69	8.27	0.33
Textile and leather	0.14	0.41	8.81	0.33
Transport equipment	0.06	0.28	12.80	0.21
Average other sectors	*0.10*	*0.32*	*11.07*	*0.25*
Total average	*0.49*	*1.28*	*12.77*	*1.70*

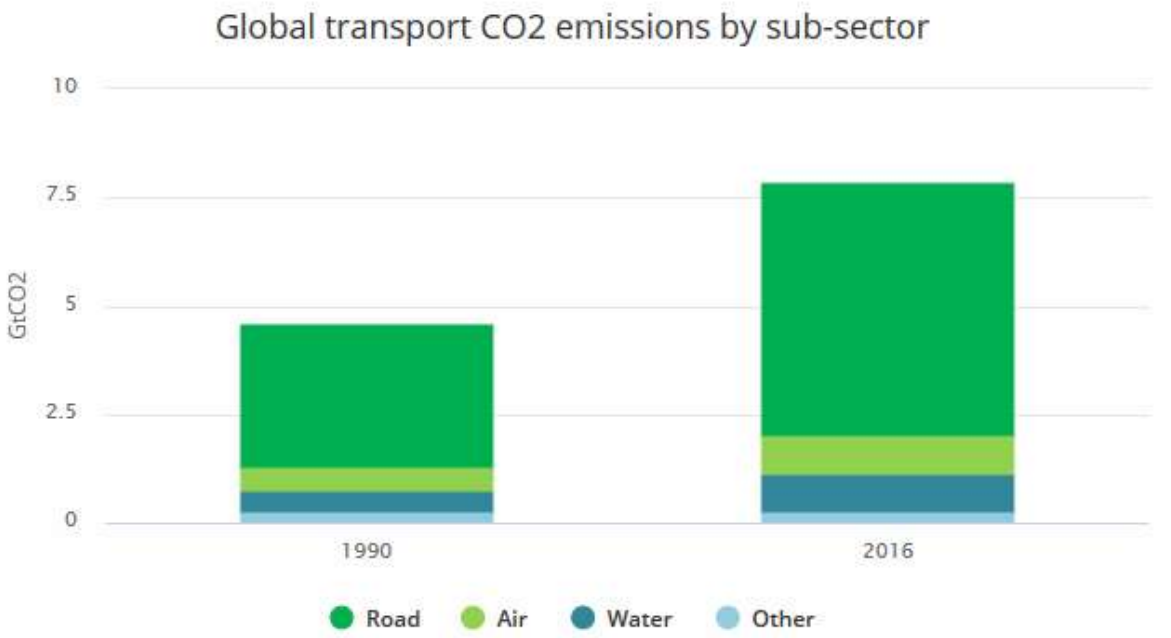
[a] Tariffs were all computed as weighted averages on the basis of bilateral import flows.

Trade policy, climate change and transport issue

Focus on transport

Globally, transport accounted for one quarter of total emissions in 2016 at around 8 GtCO2, a level 71% higher than what was seen in 1990.

The highest absolute increase was in road transport (although in relative terms bunkers increased the most). Overall, the share of road transport emissions increased by two percentage points to 74%, while air and water transport remained unchanged.



From a transport point of view, trade policy can impact significantly and by this way can change climate change policy too

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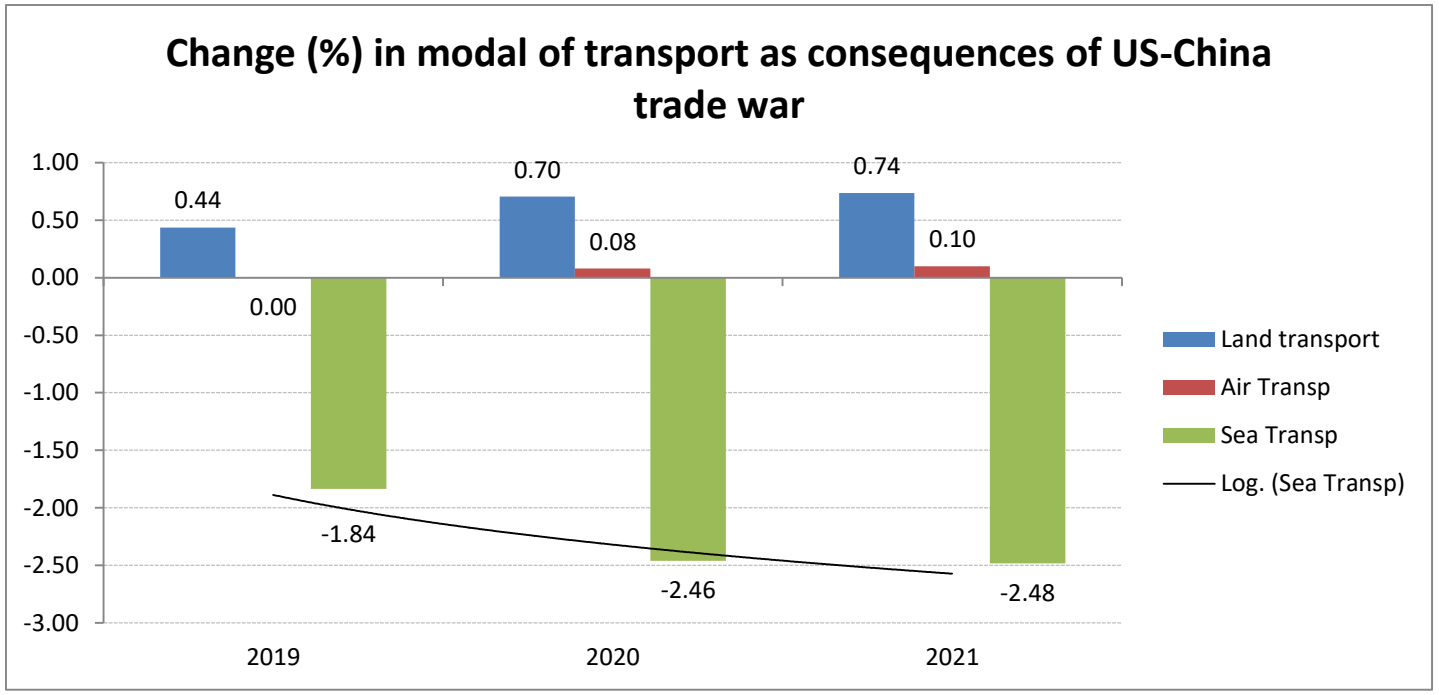
Trade policy impact on transport modal



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Climate change: trade modelling issue (3)

Two main approaches

- Econometric techniques relying on historical data
- The use of Computable General Equilibrium model

Links and dynamic are based on …

Solid approach to find links, overall scale effect and composition effect, more complex for the technique. Hard to use with developing countries

THANKS