



INTERNATIONAL TRADE IN ENVIRONMENTAL TECHNOLOGIES: THE PARTICIPATION OF BRAZIL AND CHINA

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QUESTIONS

- Is there a persistent North-South trade pattern in environmental technologies?
- What is Brazilian participation in such trade flows?
- For comparison, what is the Chinese participation in such trade flows?
- What is the level of tariff protection on imports of environmental goods in the OECD group compared to the non-OECD group, especially to Brazil and China?

METHODOLOGY

- Lists of Environmental Goods: WTO and OECD-APEC

- Data: Comtrade UN and WITS from World Bank

Descriptive Statistics (2002-2013):

- Evolution of exports and imports;
- Growth rate of exports and imports;
- Trade Balance;
- Ranking of the largest importers and exporters;
- Ranking of the most commercialized environmental technologies;
- Tariff protection levels.

OVERVIEW 2013

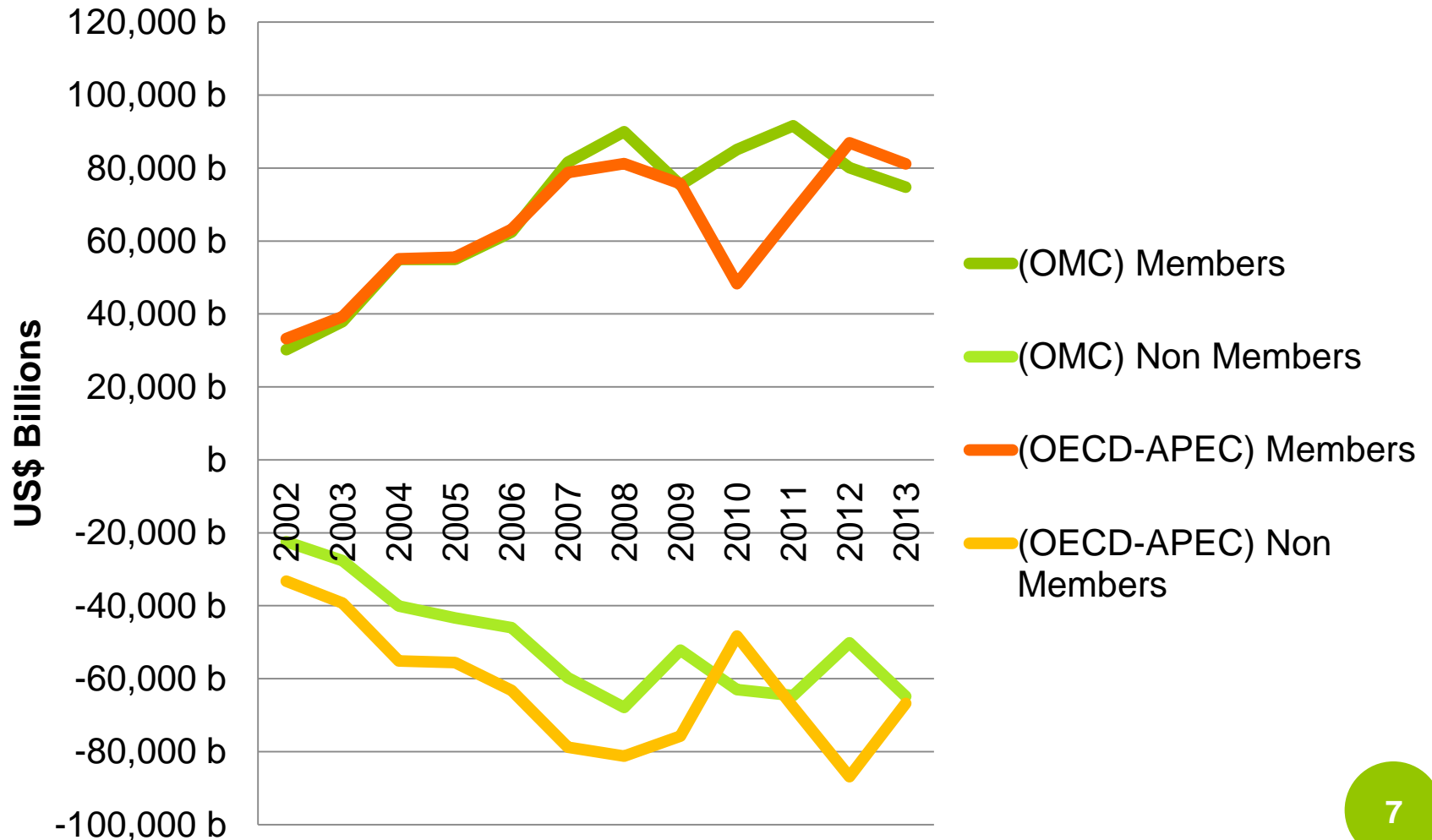
- OECD-APEC List: reached US\$ 770 billion and represented 4.5% of total world trade;
- WTO List: reached US \$ 657 billion and represented 3.8%
- The average annual growth rate of exports of environmental goods was 11.9% (OECD-APEC list) and 10% (WTO list), between the years 2002 and 2013.

SHARE AND RANKING OF MAJOR ENVIRONMENTAL TECHNOLOGY EXPORTERS 2013

List OMC			List OECD-APEC		
<i>Ranking</i>	<i>Value (US\$)</i>	<i>Share</i>	<i>Ranking</i>	<i>Value (US\$)</i>	<i>Share</i>
Germany	\$99,075 b	15.06%	Germany	\$125,270 b	16.27%
China	\$97,751 b	14.86%	China	\$96,991 b	12.60%
USA	\$73,331 b	11.15%	USA	\$93,989 b	12.21%
Japan	\$45,370 b	6.90%	Japan	\$54,803 b	7.12%
Italy	\$36,880 b	5.61%	Italy	\$39,684 b	5.15%
South Korea	\$25,470 b	3.87%	France	\$27,427 b	3.56%
France	\$21,854 b	3.32%	South Korea	\$26,611 b	3.46%
United Kingdom	\$17,663 b	2.69%	United Kingdom	\$25,735 b	3.34%
Netherlands	\$16,261 b	2.47%	Netherlands	\$21,339 b	2.77%
Mexico	\$16,038 b	2.44%	Mexico	\$18,986 b	2.47%

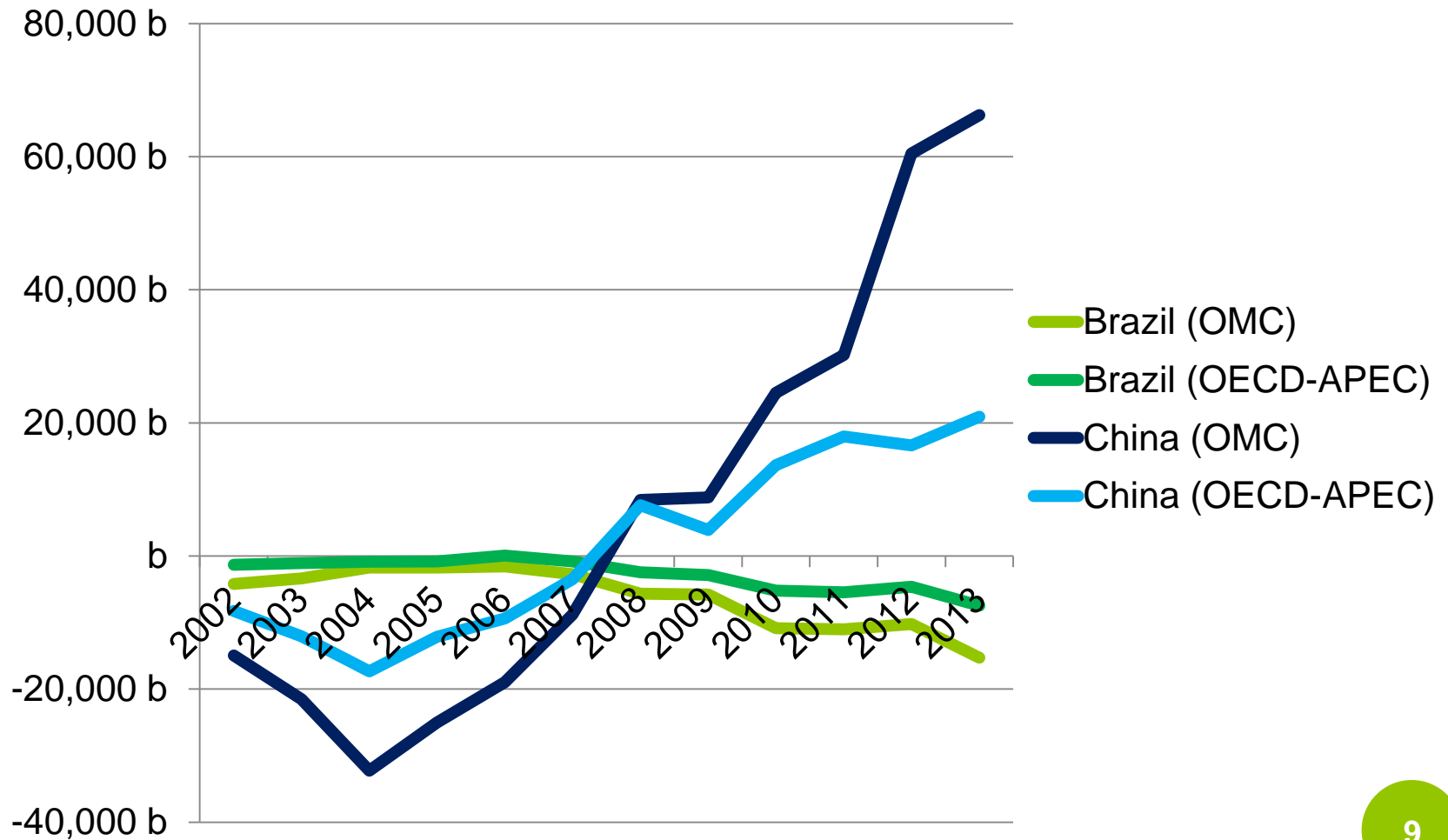
IS THERE A PERSISTENT NORTH-SOUTH
INTERNATIONAL TRADE PATTERN IN
ENVIRONMENTAL TECHNOLOGIES?

TRADE BALANCE OF MEMBER AND NON MEMBERS OF OECD



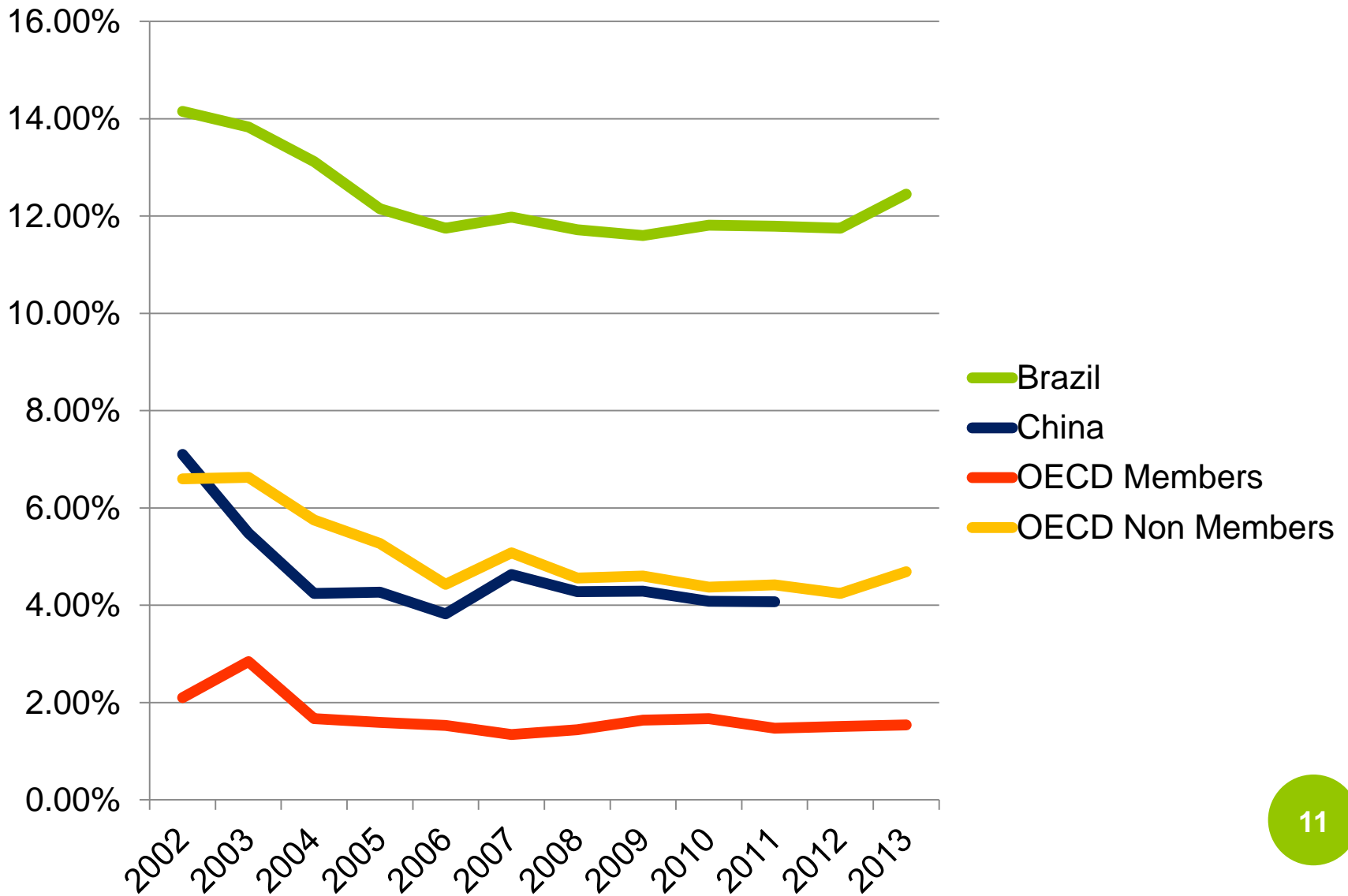
WHAT IS THE BRAZILIAN AND CHINESE PARTICIPATION IN SUCH TRADE FLOWS?

TRADE BALANCE IN CHINA VERSUS BRAZIL



WHAT IS THE LEVEL OF TARIFF PROTECTION ON
IMPORTS OF ENVIRONMENTAL TECH?

EFFECTIVELY APPLIED TARIFFS (OECD-APEC LIST)



CONCLUSIONS

- Generally, the world trade pattern in environmental technologies marked by a North-South asymmetry is maintained;
- Developing countries apply import tariffs approximately four times higher than the OECD member countries;
- Brazilian trade balance in environmental goods deteriorated in the period 2002-2013, deepening its trade deficit. This is in sharp contrast to some Brazilian strengths as the largest economy in Latin America; the most richest country in renewable energy sources in the world, including a strong production of ethanol.
- In addition, Brazil applies the highest import tariffs compared to China and the other groups analyzed in this study.

- In contrast to the decreasing participation of US and Japan in international trade of environmental technologies, China has become the second largest exporter and largest importer of environmental technologies, with growing surpluses in the trade balance of such goods. China applies low import tariffs.
- This study brings some evidence that, except China, developing countries and especially Brazil are far from benefiting from the international trade in environmental goods.