

Measuring trade mis-pricing in Ghana's International Commodity Trade: a case of Bauxite and Manganese

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6th September 2023

World Resources Forum

Introduction/Motivation

- In financing the development agenda of African countries sustainably, the emphasis has been laid on the need to build robust domestic fiscal and financial systems and improve on domestic revenue mobilization.
- In recent times, one leakage that has come up has been that of the loss of tax revenue as a result of Illicit Financial Flows (IFFs).
- The World Bank (2016) defines IFFs as “money illegally earned, transferred, or used that crosses borders”.
- Kar and Cartwright Smith (2010) argue that commercial activities of companies (through mis-pricing and abusive transfer pricing) account for 65% of IFFs, while criminal activities account for 30% and bribery and corruption account for 5% of IFFs.

Introduction/Motivation

- According to the High-Level Panel report on Africa's IFFs, more than 54 percent of Africa's IFFs are due to trade mis-pricing, estimated at USD 407 billion over the ten year period between 2001 and 2010 (UNECA, 2015).
- It is therefore important to correctly estimate the degree of trade mis-pricing to determine IFFs and losses in tax in a country of interest.
- A study by United Nations Economic Commission for Africa (2015) found that trade mis-pricing tend to be more prevalent in the extractives and commodity sectors.
- This paper examines trade mis-pricing in Ghana from a commodity level perspective (using bauxite and manganese)

Methodology

1. Value Chain Analysis

2. Quantitative estimates using the Price Filter Method

- Arm's Length Price Range for Bauxite and Manganese
- Due to the lack of commonly acknowledged market reference prices for bauxite and manganese, the interquartile range method is used to estimate trade mis-pricing.
- Upper bound of arm's length price range (PHigh): The 75th percentile is used to set the PHigh
- Lower bound of arm's length price range (PLow): Similarly, the 25th percentile is set as the PLow

Bauxite and Manganese Sectors in Ghana

- There are transfer pricing risks due to multinational firms' international trade operations: Ghana Bauxite (Bosai Group) and Ghana Manganese (China Tian Yuan Manganese Limited)
- According to Readhead (2018), commodities such as Bauxite are vulnerable to undervaluation due to a lack of quoted bauxite prices and limited spot sales.
- In 2018, Ghana Bauxite Company was slapped with a GHC 3.5 million tax liability for transfer pricing and underselling bauxite to its mother company.
- The comparison of Ghana's exports of Manganese with China's imports of Manganese show that the reported exports from Ghana are only half of the reported imports of China which could be indicative of trade mis-invoicing.

Undervalued and Overvalued Exports – Bauxite (HS:2606.00.0000)

Year	Interquartile Range Filter: Below 25th pctle (USD, Million)	Interquartile Range Filter: Above 75th pctle (USD)	Partner Country Trade Gaps(USD, Million)
2011	0.03	1.81	7
2012	1.17	0.72	-22
2013	0.27	2.81	21
2014	17.15	1.11	32
2015	22.15	0.19	23
2016	0.01	3.77	41
2017			55
Mean	6.79	1.74	22
Total	40.77	10.42	157

Undervalued and Overvalued Export- Manganese (HS: 2602.00.0000)

Year	Interquartile Range Filter: Below 25th pctle (USD, Million)	Interquartile Range Filter: Above 75th pctle (USD)	Partner Country Trade Gaps (USD, Million)
2011	0.13	0.15	267
2012	2.14	0.22	139
2013	0.79	0.32	153
2014	0.45	0.10	117
2015	0.18	0.14	50
2016	0.10	18.28	80
2017	1.38	0.13	136
Mean	0.74	2.76	135
Total	5.17	19.34	942

Conclusions and Policy Implications

- This paper uses mixed methods to analyze the value chains for bauxite and manganese in Ghana and estimates trade mis-pricing in these commodities.
- The estimates show varying levels of trade mis-pricing (both over and undervaluation).
- Policy recommendations include the need to enhance the data capabilities of the different institutions involved in exporting these goods and increased cooperation between different institutions in these sectors in order to harmonize the data collected.

Thank you

Questions ?

Comments?