

# An empirical test of the Dutch Disease hypothesis on Botswana's main exports

By

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# Introduction

- Literature is abound with evidence that natural resource booms tend to hurt countries in which they occur.
- Botswana's experience is one where the natural resource, diamond, has been combined with human ingenuity to create human capital and knowledge innovation, thereby contributing positively to the country's economic growth and development

*"It is thanks to diamonds...that we have seen our country transform from one of the poorest in the world at independence, to the middle income status that it now attained" [Former President Mogae of Botswana, 7th June 2006]*

# Country background

- **Agriculture:** At independence in 1966, 40% of the country's GDP and 90% of employment were mainly from agriculture sector
- In the 1990s, 4% of the country's GDP and 16% of employment were mainly from agriculture sector
- By 2006, only 3% of the country's GDP and 8% of employment were mainly from agriculture sector
  
- **Mining** sector's contribution has grown, especially from the 1990s
- Currently the diamond sector accounts for:
  - more than 35% of GDP
  - more than 75% of export revenue
  - 53% of government revenue
  - around 6 500 direct and indirect employment
  - approximately 25% of the country's formal and informal employment

# Study objective

- The main objective of the paper was to empirically investigate the possible impact of the DD effects on the economy of Botswana.
- The study tested the impacts of the diamond resource boom on the country's manufacturing exports namely, textiles and motor vehicles; mining exports, namely copper and soda ash; and agricultural exports of meat and meat products.
- The study's methodology borrows from Stijns (2003) in which a gravity trade model was used to test the DD, but with an added specific term to represent the DD in the model.
- **DD** captured by **TNEX<sub>it</sub>** (total net diamond exports) =  $\sum EX_{ijt} - \sum EX_{jit} = \sum NEX_{ijt}$

# Econometric results

Product/ Variable	Copper	Meat prod	Soda/ash	Hides	Textiles	Vehicles
GDP-Imp	-0.2(-0.7)	0.7 (3.5)***	-0.19 (-1.1)	0.7 (5.2)***	0.3 (2.8)***	0.44 (4)***
GDP-B	3.2 (1.7)*	-3.1 (-2.1)**	-0.38 (-0.33)	-1.8 (-1.7)*	-0.5 (-0.9)	0.81 (1.3)
Pop-Imp	-0.6 (-1.9)*	-----	0.08 (0.33)	-----	1.2 (10)***	0.7 (5.8)***
Pop-B	-----	-----	-----	1.6 (2.8)	-----	-----
TNEX	<b>0.37 (1.8)*</b>	<b>2.3 (5.8)***</b>	<b>1.5 (10.7)***</b>	<b>-0.64 (-0.9)</b>	<b>0.38 (2.3)**</b>	<b>0.7(5.6)***</b>
Distance	-0.1 (-0.2)	-3.9 (-4.6)	-2.9 (-9.3)***	-2.3(-5)***	-0.2(-0.55)	-1.1 (-4)***
Infl-Imp	0.01 (0.2)**	-----	-0.01 (3)***	-----	-----	-----
SACU	-----	-----	-----	0.08 (0.06)	-----	1.5 (2)**
SADC	-----	-----	-----	-----	4.2 (4.6)***	-----
Border	-----	-7.5 (-3.5)***	-----	-----	-----	-----
Adj-R <sup>2</sup>	0.21	0.16	0.78	0.38	0.31	0.23
F-Test	5.6	6.8	45.8	15.7	29.5	18.7

# Conclusion

- The main objective of the study was to investigate whether diamond resource boom has negatively affected Botswana's manufacturing, mining and agriculture exports as predicted by the Dutch Disease (DD) theorem.
- Through the use of a tailor-made gravity trade model, the study tested this DD hypothesis on Botswana's main export products. The overall results indicates absence of the DD curse. That is, diamond boom have not negatively affected exports from copper, meat and meat products, soda and ash, textiles, and vehicles, except for hides and skins.
- Thus, one can concluded that resource curse and DD has not hurt the country's six major exports.

The End

Thank You