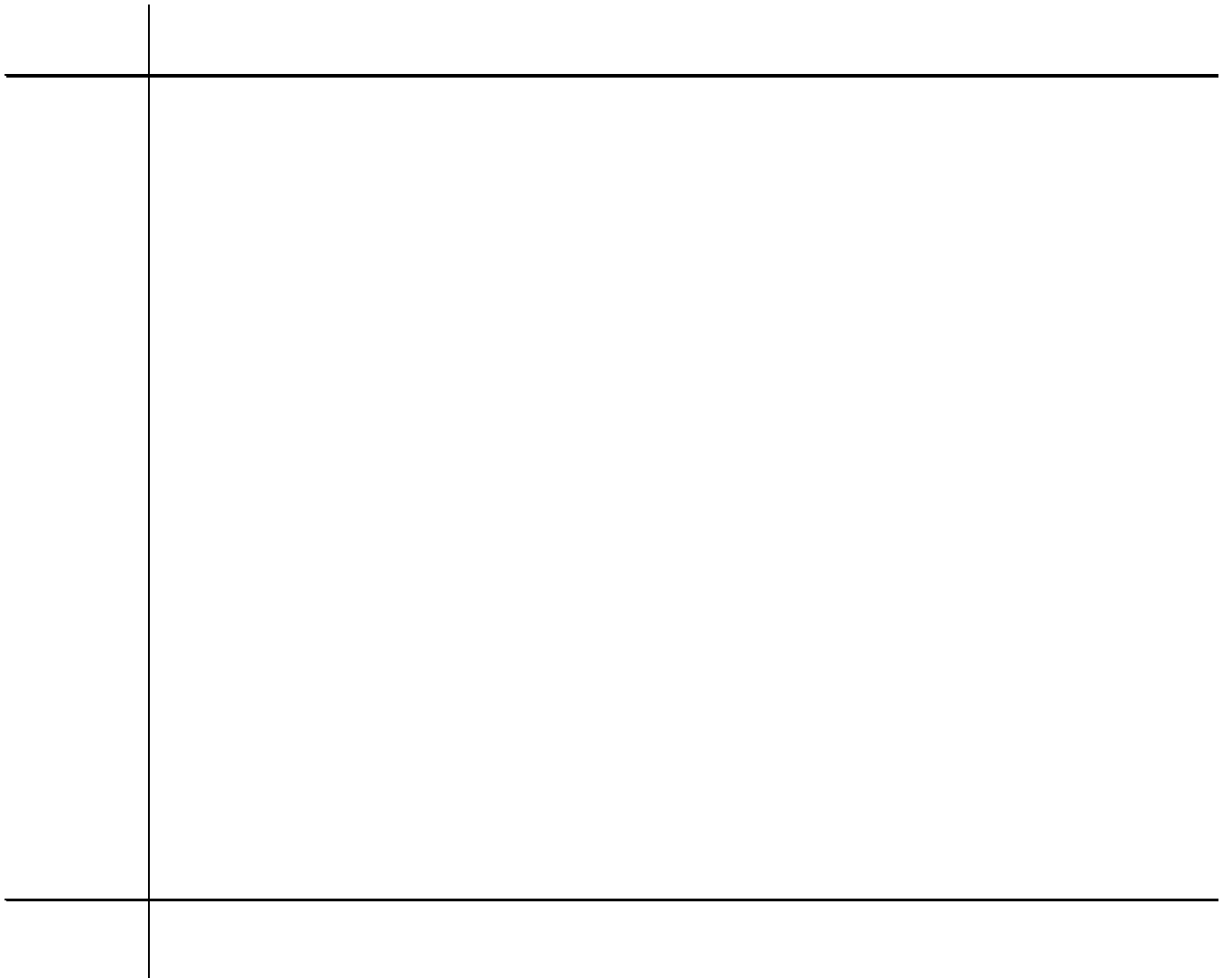




Department of
Economics and Finance



**Competitive Devaluations in Commodity-Based Economies:
Colombia and the Pacific Alliance Group**

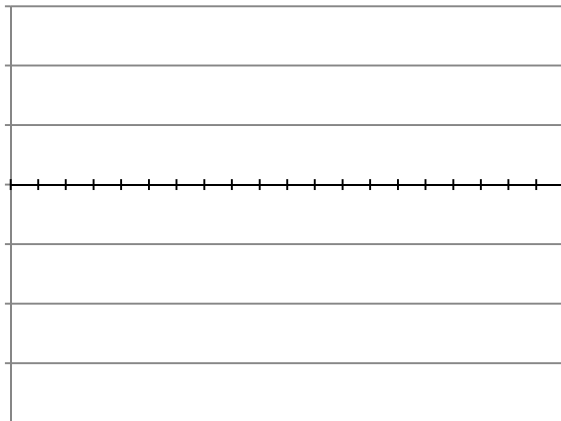
Guglielmo Maria Caporale

1. Introduction

The recent sharp decline in oil prices, as well as a significant deterioration of the trade balance in the Eurozone, have responded by devaluing the currency and signing up to the Pacific Alliance Group (PAG) Free Trade Agreement (FTA). The aim of this study is to evaluate the effects on trade flows of this type of competitive devaluation in a commodity based economy such as Colombia. According to the price elasticity approach, a devaluation should increase exports by a larger percentage of the foreign currency and decrease imports by a larger percentage of the domestic currency. However, the empirical evidence is rather mixed. Maiti (2008) reported considerable effects, as these could be even more significant in the case of a country such as Colombia, which is highly dependent on oil exports that represent a large part of total exports.

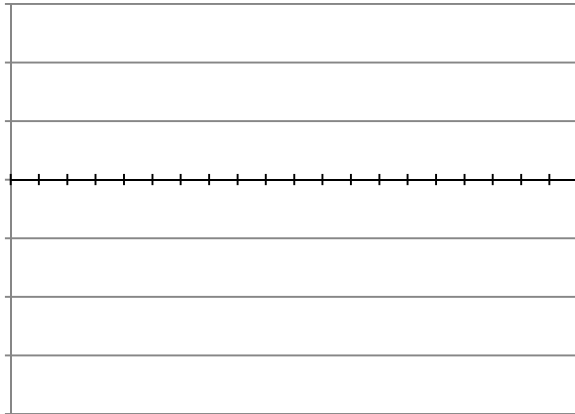
Figures and show that the Colombian trade balance is positively and significantly correlated to the oil price index, not only in the long run but also in the short run. It can be seen that during periods when oil prices fell in the first decade of this century, the trade balance was in surplus and the nominal exchange rate appreciated.

Figure 1. Trade Balance and Oil Price Index



Source: DANE (www.dane.gov.co)

Figure 2. Trade Balance and Nominal Exchange Rate



Source: DANE (www.dane.gov.co)

Figure 3. Colombia's Trade Balance vis-à-vis Its Main Trading Partners

Source: DANE (www.dane.gov.co)

Figure 3 shows the Colombian trade balance vis-à-vis its main trading partners during the period 2000-2010. The chart shows a trade surplus with the USA and Mexico, but a trade deficit with Canada and other trading partners. There was a negative trend with increasing deficits with respect to the USA and other

In commodity based economies higher power commodity prices could lead to appreciations/ depreciations of the currency. For instance Habb and Kaakova, Kapteva and Ootes, Juan Barvar and Moya ad, Koponen and Juurakka, Hasanov find that the real exchange rates in oil producing countries appreciate in the long run. Hassan et al.

defined as $P_{GPA} = \frac{P_C}{P_{GPA}}$ NE P_C P_{GPA} be n the price eve n ea of the RGA countr es
 and P_C the price eve n Co o b a NE s the no na exp an e rate def ned as the
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 μB s ca cu ated d v d n the no na μB by the GDR def ator k ott n a a nst k
 ye ds the S Curve

4. Empirical Results

4.1 Data and S-curve Analysis

D sa re ated data fro DANE Departamento Ad n strat vo Nacional de
 Estad st cas are used n the study to avo d any potent a a re at on bas n eva uat n
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Table 1. S-Curve and Bilateral Analysis by Industrial sector

CIU Code	Industrial Sectors	Chile	Ecuador	México	Peru
10	Manufacture of food products	Yes	Yes	No	No
11	Preparation of beverages	No	No	No	No
12	Manufacture of tobacco	No	No	No	No
13	Manufacture of textiles	No	No	No	No
14	Manufacture of clothing	No	No	No	No
1	Spinning and retanning of wool and manufacture of suitcases, handbags and similar articles and manufacture of saddles and harness, dressmaking and dyeing of fur	No	Yes	No	No
1	Food processing and manufacture of products of wood and cork except furniture and manufacture of articles of straw and rattan	No	Yes	No	No
1	Manufacture of paper, cardboard and paper products and cardboard	No	No	No	Yes

10) - 3.44 (c)-2.0 34(a)-2.0 34(r)-4. 1 0 34(n) and 134(n) . 2023(d)- .33 ref 3 4 2 . 4 119.99 2 (r)-4. 129(n) .

N en f (l)0. 2m442 3 2 ()TJ 34(-) 3.a 3 (l)0. 2144(n) . 213(e f 2

Source: DANE (www.dane.gov.co)

However for the free of the main industries Manufacture of basic metals products sector Manufacture of computer, electronic and optical products and Manufacture of Motor vehicles, trailers and semi-trailers a deviation does not have the desired effects on trade flows

Figure shows the B n rea ter s by industr a sector The sectors with the best
def c t are Manufacture of bas c eta products

rate v s a v s Co o b a s RGA trad n partners As a ready ent oned h e ser es are
 annua and cover h e per od fro to

Table 2. Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
Trade Balance of Manufacture of basic metal products, total Dollars	555				

The estimated panel model is given by

$$TB_{it} = \alpha + \beta_1 \cdot RBER_{it} + \beta_2 \cdot GDP_{it} + \eta_i + u_{it}$$

where TB_{it} is the annual trade balance measured in US dollars for sector i at time t , $RBER_{it}$ is the corresponding annual real exchange rate expressed in dollars and GDP_{it} is the gross domestic product in constant prices for sector i at time t .

**Table 2. Regression output. Sector CIU classification 24:
Manufactures of Basic Metal**

Variables	(i) OLS	(ii) FE	(iii) FE Time effects
Real Batera Export rate			
GDP			
Constant			
Observations			
R-squared			
Number of Country			
Country FE		YES	YES
Year FE			YES

Country fixed effects have been included in a specification of the dependent variable
 as BE is significant at the 1% level, significant at the 1% level, significant at the 1% level

would be to pursue industrial restructuring, but our jobs cannot be approved, nor can we report
run and instead a education on the road

Endnotes

<http://www.dane.gov.co/index.php/compcoercio/externa/banza/compcoercia>
To ensure that the FE model is efficient, we tested for the idiosyncratic errors term u_{it} had a constant
variance across t and no serial correlation. In this study we applied the Durbin-Watson test developed
by Durbin based on the residuals from OLS estimation of the first difference of equation (1) to
assess the adequacy of the test for heteroscedasticity, robust standard error to potential unknown variance and
covariance properties of the errors and data.

http://www.dane.gov.co/files/observatorio/competitividad/entorno/economico/compendio_a.pdf

Appendix

Figure A2. S-Curve: Ecuador



Figure A3. S-Curve: Mexico

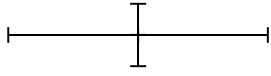
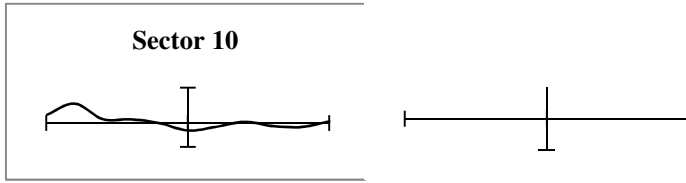


Figure A4. S-Curve: Peru



References

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- Bhattacharya, M. and Herty, S. (1998). The J and S curves: a survey

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