



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

**Aid and Trade: An Assessment of the United States Economic Aid to Developing Nations**

**Kayode Ajewole**  
**Department of Agricultural Economics**  
**Kansas State University**  
[kajewole@ksu.edu](mailto:kajewole@ksu.edu)

*Selected Paper prepared for presentation at the 2017 Agricultural & Applied Economics  
Association Annual Meeting, Chicago, Illinois, July 30-August 1*

*Copyright 2017 by Kayode Ajewole. All rights reserved. Readers may make verbatim copies of  
this document for non-commercial purposes by any means, provided that this copyright notice  
appears on all such copies.*



Kayode M Ajewole<sup>1</sup>

<sup>1</sup>Department of Agricultural Economics, Kansas State University, Manhattan, KS 66506  
E-mail: kajewole@gmail.com

## Introduction

A larger percentage of foreign aid/grants are from developed nations to developing/underdeveloped counterparts. Understanding the influence of aid on the recipient country's policies is very important.

This study examined the impact of aid from the United States (developed nation) on the agricultural bilateral trade with the sub-Saharan African nations (developing/underdeveloped).

The main objective of this study is to determine if the developed nations economic aid has an influence on trade policy in the developing countries.

This study focused mainly on the United States (U.S) as a donor country to the sub-Saharan Africa (SSA) countries. The United States aid to the sub-Saharan African are mostly on the need basis and sometimes influenced by investment/economic decisions.

I estimated 3SLS model for U.S import, export, and gross trade values with SSA. We also included SSA import and export values to the whole world as a basis of comparison.

## Methodology

We treated aid as an endogenous variable in a 3SLS model.

The models are as follow:

$$T_{ipt} = \gamma A_{ipt} + X_{ipt}\Gamma + c_i + \varepsilon_{ipt} \quad (1)$$

$$A_{ipt} = \beta_1 RC + \beta_2 CS + X_{ipt}\Gamma + c_i + \varepsilon_{ipt} \quad (2)$$

where equation (1) is the second stage model that examined the influence of aid on trade volume. Equation (2) is the first stage model.

$T_{ipt}$  is the volume of trade from country i on commodity p at given year t with the United States.

$A_{ipt}$  is the amount of aid received from the U.S.

$X_{ipt}$  is the vector of other exogenous variables affecting trade flow.

$RC$  and  $CS$  are the real consumption and capital stock of the aid recipient country respectively.

$c_i$  = Country fixed effect.

## Data

Trade data was collected from the United Nations Statistics Division's Commodity Trade Statistics Database (Comtrade, 2015).

Aid data was collected from the USAID foreign aid database (USAID, 2017).

The rest of the exogenous variables in this study are (or derived) from the PWT 9.0 (Feenstra, 2015).

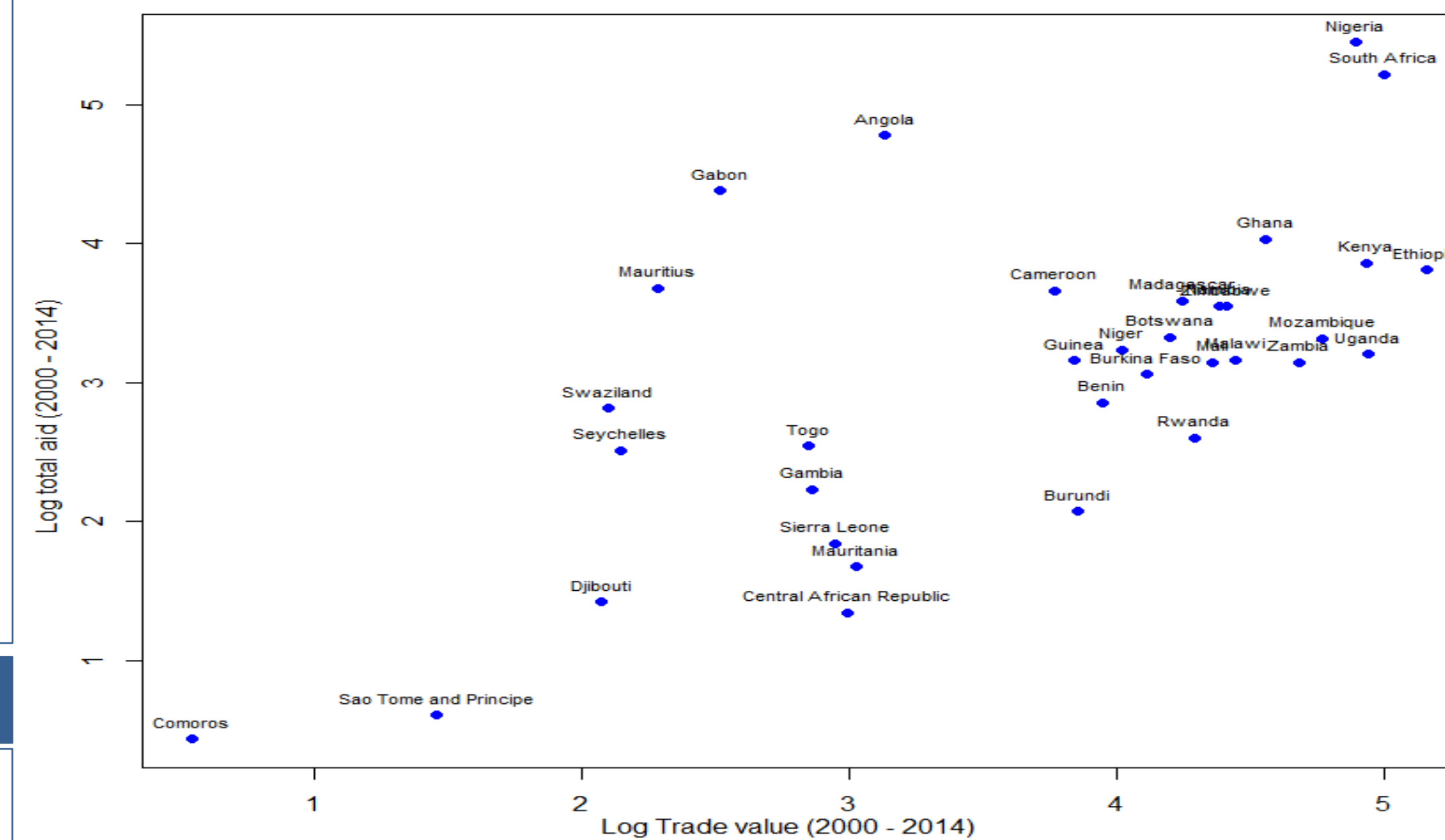


Figure 1: Aid and bilateral trade between U.S and SSA countries (2000-2014)

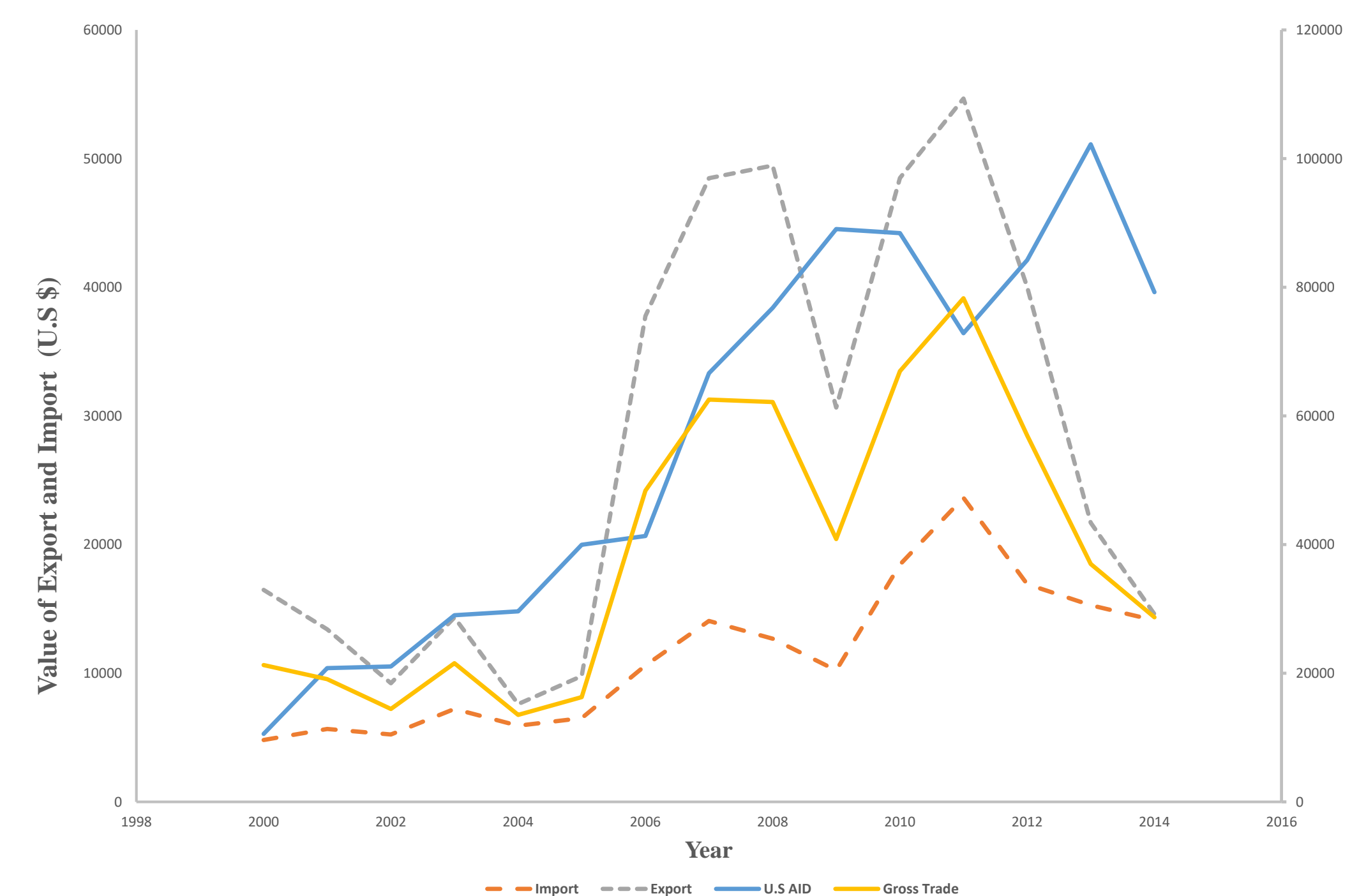


Figure 2: Total aid vs trade for all the countries (2000 – 2014)

## Results

Table 1: 3SLS regression of trade between the U.S and Sub-Saharan Africa nation

	Export (US)	Import (US)	Trade (US)	Export (World)	Import (World)
Aid	-0.106 (1.458)	1.467 (1.354)	0.391 (0.939)	2.367* (1.276)	0.897* (0.536)
Population	-1.155 (4.521)	4.422 (4.198)	1.292 (2.912)	4.193 (3.957)	-0.219 (1.662)
Real GDP	-2.527 (1.864)	1.201 (1.731)	0.617 (1.201)	-1.640 (1.632)	1.057 (0.685)
Output-side real GDP	2.702*** (0.932)	-1.438* (0.865)	0.112 (0.600)	0.363 (0.816)	-0.250 (0.342)
Share of gross capital formation	1.335 (0.818)	-0.912 (0.759)	0.150 (0.527)	0.201 (0.716)	-0.737** (0.301)
Price level of exports	0.277 (2.240)	0.0270 (2.080)	1.010 (1.443)	-2.383 (1.961)	-0.00183 (0.823)
Price level of imports	0.456 (1.872)	-0.347 (1.739)	-1.217 (1.206)	1.775 (1.639)	0.486 (0.688)
Share of household consumption	0.451 (0.360)	0.0179 (0.334)	0.340 (0.232)	0.219 (0.315)	-0.368*** (0.132)
Share of merchandise	1.414* (0.742)	1.069 (0.689)	1.324*** (0.478)	0.961 (0.649)	0.278 (0.273)
Share of merchandise	1.076 (0.824)	1.234 (0.765)	1.384*** (0.531)	1.259* (0.721)	-0.228 (0.303)
Employment Number	2.214 (3.043)	-3.659 (2.826)	-1.170 (1.961)	-3.467 (2.664)	-0.857 (1.119)
Human capital index	-0.744*** (0.240)	-0.340 (0.223)	-0.327** (0.154)	-0.264 (0.210)	-0.115 (0.0881)
Constant	60.40 (50.84)	-92.35* (47.22)	-29.12 (32.76)	-49.31 (44.51)	-15.93 (18.69)
Country F.E	Yes	Yes	Yes	Yes	Yes
N	383	383	383	383	383
R_Sq	0.790	0.644	0.806	0.338	0.782

Standard errors in parentheses  
\*  $p < 0.1$  \*\*  $p < 0.05$  \*\*\*  $p < 0.01$

## Discussion and Conclusions

The three U.S models showed no significant impacts of aid on agric. trade.

U.S economic aid have significant impact on the volume of agric. trade by the sub-Saharan African countries at 10 percent level.

No relationship between U.S economic aid and bilateral agricultural trade.

This study confirmed that the United States aid to the sub-Saharan African countries are mostly on the need basis and not necessarily to influence the trade policy of the developing nations with the United States.

## References

- Feenstra, R. C., Inklaar, R., & Timmer, M. P. (2015). The next generation of the Penn World Table. The American Economic Review, 105(10), 3150-3182. available for download at [www.ggdcc.net/pwt](http://www.ggdcc.net/pwt)
- Foreign Aid Explorer (2017): The official record of U.S. foreign aid: U.S. Agency for International Development (USAID) <https://explorer.usaid.gov/data.html>
- Comtrade, U. N. (2015). UN Comtrade database. UN Comtrade Online <http://comtrade.un.org/>