Kiel
Working Papers

Does Aid-for-Trade from the North Promote South-South Trade?

Philipp Hühne
Birgit Meyer
Peter Nunnenkamp

Does Aid-for-Trade from the North Promote South-South Trade?

Philipp Hühne, Birgit Meyer, and Peter Nunnenkamp

Abstract:
Our empirical estimations indicate that aid-for-trade granted by OECD donors strengthens the trade relations of recipient countries with other developing countries. By focusing on South-South trade we mitigate endogeneity concerns that have plagued analyses of trade between recipients and donors of aid-for-trade.

Keywords: South-South trade, aid effectiveness, aid-for-trade.

JEL classification: F14, F35

Philipp Hühne
Helmut-Schmidt-Universität
Holstenhofweg 85
D-22043 Hamburg, Germany
phone: +49-40-65412475
E-mail:
    philipp.huehne@hsu-hh.de

Birgit Meyer
University of Kiel
Leibnizstraße 3
24118 Kiel, Germany
phone: +49-431-8802160
E-mail:
    b.meyer@economics.uni-kiel.de

Peter Nunnenkamp
Kiel Institute for the World Economy
Kiellinie 66
D-24105 Kiel, Germany
phone: +49-431-8814209
E-mail:
    peter.nunnenkamp@ifw-kiel.de

1.   Motivation

The Aid-for-Trade (AfT) Initiative was launched at the WTO Ministerial Conference in Hong Kong in 2005 to help "overcome the supply-side and trade-related infrastructure constraints" (OECD and WTO 2011: 1) of developing countries and support their integration into international trade. However, the theoretical and empirical literature offers a highly ambiguous picture of the effectiveness of foreign aid in strengthening the export capacity of recipient countries.[1] Theoretically, Suwa-Eisenmann and Verdier (2007: 485) stress that Dutch disease is probably "the most celebrated argument" for aid to have adverse effects on the recipient country's international competitiveness. In contrast, Adam and Bevan (2006) argue that the export-depressing Dutch disease effects tend to be dominated by positive supply-side effects when looking beyond the short term. For instance, AfT may remove critical infrastructural bottlenecks and reduce the administrative and regulatory costs of trade.

The available empirical evidence is also inconclusive. Sceptics have even suspected that the AfT Initiative was primarily in the interest of selfish donors, using AfT as a means to promote their own exports to developing countries. Indeed, previous findings indicating that the allocation of aid is driven by export competition among donor countries (e.g., Hoeffler and Outram 2011) imply that the empirical literature on the effectiveness of AfT typically suffers from serious endogeneity problems. In particular, the lack of convincing instruments implies that reverse causation is difficult to address as long as the focus is on the trade relations between recipients and donors of AfT.

Against this backdrop, our analysis of South-South trade offers more reliable insights on the effectiveness of AfT. At the same time, we contribute to the long-standing and politically important debate on how to intensify the trade relations among developing countries.

---

[1]Hühne et al. (2014) discuss the previous literature on AfT in more detail.

According to UNCTAD, the share of South-South trade in total world exports has doubled over the last 20 years. Low-income countries, notably in Africa, are reported to "have increasingly benefited from commercial exchanges with developing Asia."[2]

2.   Data and approach

Our empirical analysis covers all low- and middle-income countries[3] that received AfT at least temporarily during the 1990-2012 period. In line with OECD/ WTO practice, AfT includes aid from donor countries of the OECD's Development Assistance Committee (DAC) in three sub-categories: physical infrastructure, production sectors, and trade policies and regulations. These aid categories existed already prior to the AfT Initiative of 2005. Aid data are taken from the OECD-DAC's Creditor Reporting System.[4] Trade data are from the United Nations Comtrade database, while data on (non-trade related) control variables are from the World Development Indicators and the CEPII database.[5]

The estimation strategy is based on the gravity model. We aggregate the bilateral components of the gravity model and estimate the following relationship:

$$Trade_{it} = GDP_{it-1}{}^{\beta_1} AfT_{it-1}{}^{\beta_2} D_{it-1}{}^{\beta_3} \exp(\delta_1 \mu_i + \delta_2 \lambda_t) \qquad (1)$$

where $Trade_{it}$ represents either the exports X_{it} of recipient country i in year t to all low- and middle-income countries j, or the imports M_{it} of recipient country i in year t from all low- and middle-income countries j; μ_i are recipient country fixed effects and λ_t are time fixed effects. The model is estimated in logs. Hence, coefficients can be interpreted as elasticities. All

explanatory variables are lagged by one year.AfT_{it-1} is our explanatory variable of principal interest. We account for the recipient country's GDP (GDP_{it-1}). In order to aggregate the trade flows of individual recipient countries over all low- and middle-income trading partners, we construct a proxy on market access and trade costs, D_{it-1}, for each recipient country, as the weighted sum of trade costs and market opportunities in relation to all trading partners j:[6]

$$D_{it} = \sum_{j} GDP_{jt}^{\widehat{\theta}_1} POP_{jt}^{\widehat{\theta}_2} Dist_{ij}^{\widehat{\theta}_3} \qquad (2)$$

We perform pooled regressions for X_{it} and M_{it}, rather than separate regressions for exports and imports. We introduce dummy variables to test for differences in the importance of our explanatory variables on trade flows in opposite directions. The dummy variables are set equal to one for the imports (and, respectively, the exports) of recipients and zero otherwise. We interact these dummy variables with AfT and all other explanatory variables, mirroring individual regressions for exports and imports. We formally test for differences between the coefficients of the export and import equation with a Wald test.

3.   Results

We report the results for the sample of all low- and middle-income countries in Table 1. For each explanatory variable we show two coefficients revealing the effects on (i) the exports of recipient country i to all partner countries and (ii) the imports of recipient country i from all partner countries. In addition, the p-values of the Wald test are given in the first line for each explanatory variable to assess whether the two coefficients differ significantly from each other. The coefficients on the control variables are as expected. The recipient country's GDP

---

[6] We derive D_{it} by using the estimated coefficients of a standard gravity model as weights, following Polak (1996). The auxiliary calculation includes a set of dyadic gravity-type variables which would otherwise be lost due to aggregation, such as $Dist_{ij}$, which is the distance between recipient i and partner country j. Consequently, D_{it} fully accounts for the factors shaping the demand of recipient i for imports from j or, respectively, the supply of exports by recipient i to j.

has a significantly positive impact on both imports and exports, though the Wald test reveals a significantly stronger effect on the imports of AfT recipient countries. Our proxy on market access and trade costs also proves to be significantly positive; here the impact on exports and imports is similarly strong.

Turning to our explanatory variable of principal interest, total AfT appears to be effective in promoting South-South trade in both directions (column 1 of Table 1). The Wald test indicates similarly strong effects on the exports and the imports of AfT recipient countries. In quantitative terms, the effect is modest, though far from negligible: doubling total AfT would increase exports and imports by almost four percent. The results for total AfT are hardly affected when considering the three sub-categories of AfT separately in columns (2)-(4). Not surprisingly, the findings for AfT in infrastructure resemble the baseline result in column (1) most closely. The largest part of total AfT aims at removing infrastructural bottlenecks to trade in the recipient countries (see Hühne et al. 2014 for details). By contrast, AfT meant to reduce trade costs through reforming trade policies and regulations represents the least important sub-category. This may explain why the results are relatively weak in column (4). Nonetheless, it should be noted that doubling AfT with regard to trade policies and regulations would involve substantially lower aid amounts (0.75 billion US$ annually from all DAC donors), compared to doubling AfT in infrastructure (18.5 billion US$).[7] Hence, the similarly high coefficients on the different sub-categories of AfT imply that AfT with regard to trade policies and regulations could be most effective.

In Table 2, we re-estimate the model with total AfT for different components of South-South trade. Column (1) re-produces the baseline results from Table 1 for ease of comparison. In columns (2) and (3) we still consider all low- and middle-income recipients of AfT, while

[7]In 2012 US$, based on period averages for 2010-2012.

distinguishing their trading partners and performing separate estimations for trade with low-income countries (column 2) and middle-income countries (column 3). Subsequently, we distinguish between low-income recipients of AfT (column 4) and middle-income recipients of AfT (column 5). The results for our control variables are hardly affected when focusing on particular components of South-South trade.[8]

The effects of AfT on South-South trade tend to be weaker, in terms of statistical significance, when distinguishing income groups on either the recipient side or the partner country side. Another common finding for all combinations of recipient and partner countries is that the Wald tests speak against stronger effects of AfT on either the recipients' exports or imports. Yet the results for different components of South-South trade offer additional insights. When focusing on middle-income countries on the side of partner countries (column 3) or recipient countries (column 5), the findings resemble the baseline results for the overall sample insofar as the effects prove to be significant, at the ten percent level at least, for both the recipients' exports and imports. The effects of AfT are more nuanced when focusing on low-income countries as partner countries (column 2) or recipients of AfT (column 4). In particular, AfT appears to be ineffective in promoting the exports of all AfT recipients to low-income trading partners – and, conversely, the imports of low-income AfT recipients from all low- and middle-income partner countries.

4. Summary

Aid-for-trade granted by OECD donors strengthens the trade relations of recipient countries with other developing countries. Doubling AfT would increase South-South exports and imports by almost four percent. Distinguishing between low- and middle-income countries,

---

[8]The most notable exception is that the recipients' GDP loses its significance when considering the exports of all AfT recipients with low-income partner countries in column (2). At the same time, the Wald test reveals that our proxy on trade costs and market access has a significantly stronger effect on the imports of all AfT recipients from low-income partners, compared to the exports of all AfT recipients to low-income partners.

our findings imply that AfT could have improved the trade balance of low-income countries in South-South trade. An AfT-induced trade surplus in South-South trade could be used for imports from high-income countries, including the donors of AfT, which may be required to foster the economic development of low-income recipients.

References

Adam, C.S. and D.L. Bevan (2006) Aid and the supply side: Public investment, export performance, and Dutch disease in low-income countries. *World Bank Economic Review* 20: 261-290.

Hoeffler, A. and V. Outram (2011). Need, merit, or self-interest – what determines the allocation of aid? *Review of Development Economics* 15: 237-250.

Hühne, P., B. Meyer and P. Nunnenkamp (2014). Who benefits from aid for trade? Comparing the effects on recipient versus donor exports. *Journal of Development Studies*, http://www.tandfonline.com/doi/full/10.1080/00220388.2014.903246.

OECD and WTO (2011). Aid for trade: Showing results. http://www.oecd.org/dac/aft/Policy_brief_AfT_Showing_Results.pdf.

Polak, J.J. (1996). Is APEC a natural regional trading bloc? A critique of the 'gravity model' of international trade. *The World Economy* 19, 533-543.

Suwa-Eisenmann, A. and T. Verdier (2007). Aid and trade. *Oxford Review of Economic Policy* 23: 481-507.

Table 1 – AfT effects on South-South trade: Total AfT and sub-categories of AfT

VARIABLES	(1) Total	(2) Infrastructure	(3) Production sectors	(4) Trade policies
Aid for Trade				
Probability	0.88	0.76	0.80	0.92
Exports	**0.0399****	**0.0396****	**0.0434*****	**0.0406***
	(0.0154)	(0.0158)	(0.0153)	(0.0242)
Imports	**0.0374****	**0.0345***	**0.0476*****	0.0434
	(0.0172)	(0.0180)	(0.0167)	(0.0292)
GDP				
Probability	0.03	0.03	0.04	0.04
Exports	**0.679*****	**0.683*****	**0.678*****	**0.699*****
	(0.199)	(0.199)	(0.199)	(0.203)
Imports	**1.022*****	**1.029*****	**1.016*****	**1.039*****
	(0.218)	(0.219)	(0.218)	(0.222)
Market Access				
Probability	0.93	0.93	0.94	0.93
Exports	**0.704*****	**0.702*****	**0.703*****	**0.695*****
	(0.193)	(0.193)	(0.193)	(0.192)
Imports	**0.689*****	**0.687*****	**0.691*****	**0.681*****
	(0.157)	(0.157)	(0.156)	(0.157)
Observations	5,290	5,290	5,290	5,290
Number of id	258	258	258	258
overall R2	0.121	0.0899	0.184	0.189

Notes: Heteroscedastic robust standard errors are in parentheses. P-Values are indicated by *** $p<0.01$, **$p<0.05$ and *$p<0.1$ respectively; significant coefficients highlighted in **bold**.

Table 2 – AfT effects on South-South trade: Distinction between low- and middle-income countries

VARIABLES	(1) LM-LM	(2) LM-L	(3) LM-M	(4) L-LM	(5) M-LM
Aid for Trade					
Probability	0.88	0.38	0.96	0.54	0.35
Exports	**0.0399****	0.0271	**0.0330***	**0.0394***	**0.0322***
	(0.0154)	(0.0194)	(0.0180)	(0.0230)	(0.0192)
Imports	**0.0374****	**0.0556***	**0.0341***	0.0238	**0.0517****
	(0.0172)	(0.0315)	(0.0195)	(0.0247)	(0.0246)
GDP					
Probability	0.03	0.01	0.63	0.31	0.03
Exports	**0.679*****	0.132	**0.816*****	**0.508****	**0.842****
	(0.199)	(0.349)	(0.221)	(0.227)	(0.327)
Imports	**1.022*****	**1.237*****	**0.910*****	**0.751*****	**1.332*****
	(0.218)	(0.296)	(0.261)	(0.210)	(0.336)
Market Access					
Probability	0.93	0.06	0.78	0.48	0.23
Exports	**0.704*****	**0.706*****	**0.598*****	**1.015****	**0.558*****
	(0.193)	(0.191)	(0.196)	(0.435)	(0.180)
Imports	**0.689*****	**1.023*****	**0.642*****	**0.713*****	**0.700*****
	(0.157)	(0.102)	(0.127)	(0.121)	(0.220)
Observations	5,290	5,232	5,290	2,136	3,154
Number of id	258	258	258	102	156
overall R2	0.121	0.00177	0.352	0.419	0.0609

Notes: see Table 1. LM= low- and middle-income countries; L= low-income countries; M= middle-income countries; first entry: AfT recipients; second entry: trading partners.