## **Review of "Do Remittances Worsen Export Diversification?"**

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This paper uses dynamic panel data methods on a sample of 135 countries over the 2000-16 period to investigate whether remittance inflows are associated with a worsening in export diversification in the recipient, measured either by indices of export concentration or by a variety index equivalent to the number of active industry categories in exports. The paper has two major findings; that remittances tend to be associated with an appreciation of the recipient country currency, and that remittances are associated with a decline in export diversification. The first finding simply corroborates results from other cross-country studies. The second finding relies on a problematic formulation of the main hypothesis and a specification which is not adequately motivated, and which leads to problems of interpreting the results. Below are detailed comments on these two sets of issues.

## Remittances and the real exchange rate

The paper appears to be of two minds regarding the relationship between remittances and the real exchange rate. The abstract and introduction treat the appreciating impact of remittances as clear-cut, linking it to a Dutch Disease-type phenomenon and, more critically, establishing it as the channel through which remittances might affect export diversification—as illustrated in the diagram on page 4. If there is another channel, the paper does not mention it. On the other hand, the paper also states that "...in practice, evidence is mixed", thereby motivating a new estimation of the remittances-real exchange rate relationship. Without offering any methodological improvement or a unique sample with which to test the hypothesis, the estimation simply corroborates the findings of existing empirical studies cited on page 6.

#### Remittances and export diversification

The more novel test explored by the paper is whether remittances affect export diversification. However, there are fundamental specification problems in how this is carried out. Foremost is the inclusion of the real exchange rate and its volatility as explanatory variables. If the main impact of remittances on export diversification is through the real exchange rate, why are both included as explanatory variables? How do we interpret the finding that remittances affect diversification, but the real exchange rate does not (Tables 2 and 3)? Furthermore, the GMM methodology used does not address adequately the endogeneity of the real exchange rate, which is a function of virtually all the other regressors.

More generally, it is not clear why the research question should focus on export *diversification*. One should expect appreciation to affect *total exports*, that is, all types of exports declining, albeit with different elasticities, as the paper points out. Some sectors might disappear altogether, which would mechanically translate into lower diversification, as

measured by the indices used in the paper. But, is more diversification necessarily always better? The concern regarding export diversification seems to be related to the traditional Dutch Disease phenomenon, whereby a booming export sector causes a real appreciation that punishes the non-booming export sectors, in other words, it lowers diversification and increases concentration in favor of the booming sector. However, at first glance, remittances would be expected to be more egalitarian, affecting all export sectors equally. Unless a connection is made to what types of export sectors are more likely to be hurt, the primary question should be to what extent do *total exports* suffer from a remittance-induced appreciation. The diagram on page 4 could include a more direct channel, from the real exchange rate to total exports to output growth. That is, even if diversification is unaffected, appreciations could have a negative impact on growth.

Another key question left unaddressed is: what is, if at all, special about remittance inflows? Would they operate in the same way as, for example, capital inflows? If not, why? At the very least, the paper should discuss this and the specification should control for other flows that may have a direct impact on the real exchange rate and an indirect one on exports.

# Terms of trade

The specification also includes terms of trade as an explanatory variable, and the justification provided is not very convincing. The paper claims that "...an improvement of terms of trade (which is a ratio of export prices over import prices) usually indicates increase of commodity prices..." and therefore "...worsens export diversification." This is incorrect; an increase in *any* export price or prices relative to import prices would be reflected in an increase in terms of trade. Unless the paper can provide evidence that commodity prices drive terms of trade throughout the large country sample, it is rather a stretch to make this claim. One could plausibly think of improvements in terms of trade that are beneficial to a large share of exports of a given country, thus there could be no effect on diversification (although a positive one on total exports). Again, this line of causality seems to be related to the traditional Dutch Disease, whereby the terms of trade shock originates in a single—usually, commodity—export, to the detriment of all other exporting sectors. However, not all increases in terms of trade originate in a single commodity.

#### Other comments

• In several instances, the paper makes a rather simplistic link between domestic demand and export diversification. One could also argue that greater domestic demand leads to lower exports, as production shifts to nontradables through a Balassa-Samuelson effect on the real exchange rate. The interpretation of the coefficient on population growth (page 12) is not convincing. Comparing two countries with the same GDP per capita and government effectiveness, why would the one with greater population growth have lower export diversification?

- It is unclear what the interaction term between remittances and the real exchange rate is measuring. What exactly is meant by "...the remittance impact is marginally diminishing."? Why would the impact of remittances depend on the level of the real exchange rate?
- The paper suggests a problematic policy response: since remittance flows are shown to reduce export diversification, they should be reduced. Regardless of the instrument used for this purpose, justifying this policy would require that the loss of diversification produce a welfare loss—presumably through lower output growth, as the page 4 diagram suggests—that more than offsets the welfare gained by recipients of remittances. Nothing in the paper indicates that this is true. Furthermore, the paper also argues that by switching from cash to account-to-account transfers, recipients would save more. This is highly doubtful.
- In explaining the specification, the paper states that, by including advanced economies—with zero remittances—in the sample, the estimation neglects the impact of remittances for these countries. This is incorrect; by including these countries, the estimation allows a comparison across countries with varying levels of remittances, zero included.