Are Workers’ Remittances Causing Growth in Developing Countries?

Demas Rampersad Lecture

Regan Deonanan
11/15/2012
The University of the West Indies
What are Workers’ Remittances?

• Transfers of money by migrants

• Typically made to family members in home countries
Motivation – Why study Remittances?

- Total Workers’ Remittances to Developing Countries amounted to US $214 billion in 2007
Why study Remittances?

- Total Workers’ Remittances to Developing Countries much less volatile over 1989-2009

![Volatility of Total Capital Inflows to Developing Countries over 1989-2009](image)
Why study Remittances? - CARICOM

- Workers’ Remittances amounted to US $4 billion in 2007 to CARICOM (except Mont & Bah)
Why study Remittances? – Barbados, Jamaica, T&T

- Workers’ Remittances as a percentage of GDP in 2007: 0.5% (T&T), 15.2% (Jam) and 2.6% (Bar)
Why study Remittances?

- 95% (US $214 billion) of world remittances went to developing countries in 2007
- Top 20 in 2007 had Remittances to GDP ratios between 9% and 45%
- Average Remittances to GDP ratio for 2007 across developing countries was 6%
- Second only to FDI and greater than ODA since the mid-nineties
Why study Remittances? – Wider Perspective

• Potential effects on Developing Countries
  – Monetary policy, developmental policy, growth policies

• OCA theory

• Migration policies in Developed countries
Outline

• Theory
• Literature Review
• What’s new
• Preview of Results
• Empirical Methodology
• Data
• Results
• Conclusion
• Policy Implications
What does the theory say?

Increase in Investment
- Financial constraints, HH rationed out credit market
- Imperfect capital mobility, frictions in domestic financial intermediation

Increase in TFP through human capital formation
- Provide minimum subsistence level, HH more productive
- Invest in education

Reduction in labor effort
- Afford more leisure

Dutch Disease
- Export sector negatively impacted
Literature Review - Empirical

- IMF (2008) – Macroeconomic Consequences of Remittances


- Overall point – remittances decrease growth through a reduction in labor
What's new

Re-examine IMF papers using panel data techniques:

- Better control of endogeneity
- Control for weather
- Using 5 yr moving averages over fixed 5 yr averages
- Newer dataset covering 1970-2009
- Different country sample
Preview of Results

- Evidence of significant positive effect of remittances on growth
- Magnitude of effect is large
- Controlling for weather important
- Better control of endogeneity important
Empirical Methodology – Endogeneity!

- Reverse causality
  - Remittances causes growth
  - Growth causes remittances

- Omitted variable (weather)
  - External variable driving both remittances and growth
Empirical Methodology

\[ Growth_{it} = \alpha + \beta wr_{it} + \gamma X_{it} + \eta_i + \mu_t + \epsilon_{it} \]

- Growth – real GDP growth per capita
- Variable of Interest: \( wr = \log(WR/GDP) \)
- Controls – initial per capita GDP, Trade, M2, FDI, OA+ODA, inflation rate, average growth top 20 trading partners, ICRG Political Index, average monthly temperature and rainfall
- 2 methods – OLS with FE and SGMM
Data

- IMF - Average Growth of Top 20 trading partners & ICRG Political Index
- NCDC – average monthly rainfall and temperature
- WDI – all other variables
- Sample contains 107 countries over 1970-2009
## 1. Results - Overall

<table>
<thead>
<tr>
<th>Main Interest</th>
<th>OLS with FE</th>
<th>SGMM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>wr</strong></td>
<td>0.56***</td>
<td>0.62**</td>
</tr>
<tr>
<td>P-value</td>
<td>0.038</td>
<td>0.054</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.480</td>
<td>0.724 (Hansen p-val)</td>
</tr>
<tr>
<td>Observations</td>
<td>611</td>
<td>630</td>
</tr>
<tr>
<td>Countries</td>
<td>45</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Noteworthy</th>
<th>OLS with FE</th>
<th>SGMM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FDI</strong></td>
<td>0.51*</td>
<td>0.92*</td>
</tr>
<tr>
<td>P-value</td>
<td>0.059</td>
<td>0.069</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Noteworthy</th>
<th>OLS with FE</th>
<th>SGMM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OA+ODA</strong></td>
<td>0.02</td>
<td>0.37</td>
</tr>
<tr>
<td>P-value</td>
<td>0.926</td>
<td>0.337</td>
</tr>
</tbody>
</table>
# 1. Results - Overall

<table>
<thead>
<tr>
<th>Main Interest</th>
<th>OLS with FE</th>
<th>SGMM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>wr</strong></td>
<td><strong>0.56</strong>*</td>
<td>0.62**</td>
</tr>
<tr>
<td>P-value</td>
<td>0.038</td>
<td>0.054</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.480</td>
<td>0.724 (Hansen p-val)</td>
</tr>
<tr>
<td>Observations</td>
<td>611</td>
<td>630</td>
</tr>
<tr>
<td>Countries</td>
<td>45</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Noteworthy</th>
<th>FDI</th>
<th>OA+ODA</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-value</td>
<td>0.059</td>
<td>0.926</td>
</tr>
<tr>
<td></td>
<td>0.059</td>
<td>0.37</td>
</tr>
<tr>
<td></td>
<td>0.069</td>
<td>0.337</td>
</tr>
</tbody>
</table>
## 1. Results - Overall

<table>
<thead>
<tr>
<th>Main Interest</th>
<th>OLS with FE</th>
<th>SGMM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>wr</strong></td>
<td>0.56***</td>
<td>0.62**</td>
</tr>
<tr>
<td>P-value</td>
<td>0.038</td>
<td>0.054</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.480</td>
<td>0.724 (Hansen p-val)</td>
</tr>
<tr>
<td>Observations</td>
<td>611</td>
<td>630</td>
</tr>
<tr>
<td>Countries</td>
<td>45</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Noteworthy</th>
<th>OLS with FE</th>
<th>SGMM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FDI</strong></td>
<td>0.51*</td>
<td>0.92*</td>
</tr>
<tr>
<td>P-value</td>
<td>0.059</td>
<td>0.069</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Noteworthy</th>
<th>OLS with FE</th>
<th>SGMM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OA+ODA</strong></td>
<td>0.02</td>
<td>0.37</td>
</tr>
<tr>
<td>P-value</td>
<td>0.926</td>
<td>0.337</td>
</tr>
</tbody>
</table>
## 2. Results – Weather and Modeling

<table>
<thead>
<tr>
<th>Method</th>
<th>Statistic</th>
<th>Without weather</th>
<th>With weather</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OLS with FE</strong></td>
<td><strong>wr</strong></td>
<td>0.36</td>
<td>0.56**</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.192</td>
<td>0.038</td>
</tr>
<tr>
<td></td>
<td>R-squared</td>
<td>0.436</td>
<td>0.480</td>
</tr>
<tr>
<td><strong>SGMM</strong></td>
<td><strong>wr</strong></td>
<td>0.45*</td>
<td>0.62*</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.099</td>
<td>0.054</td>
</tr>
<tr>
<td></td>
<td>Hansen p-val</td>
<td>0.551</td>
<td>0.724</td>
</tr>
</tbody>
</table>
## 2. Results – Weather and Modelling

<table>
<thead>
<tr>
<th></th>
<th>Without weather</th>
<th>With weather</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OLS with FE</strong></td>
<td>wr</td>
<td></td>
</tr>
<tr>
<td>P-value</td>
<td>0.36</td>
<td>0.56**</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.192</td>
<td>0.038</td>
</tr>
<tr>
<td></td>
<td>0.436</td>
<td>0.480</td>
</tr>
<tr>
<td><strong>SGMM</strong></td>
<td>wr</td>
<td></td>
</tr>
<tr>
<td>P-value</td>
<td>0.45*</td>
<td>0.62*</td>
</tr>
<tr>
<td>Hansen p-val</td>
<td>0.099</td>
<td>0.054</td>
</tr>
<tr>
<td></td>
<td>0.551</td>
<td>0.724</td>
</tr>
</tbody>
</table>
## 2. Results – Weather and Modelling

<table>
<thead>
<tr>
<th>Method</th>
<th>Without weather</th>
<th>With weather</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OLS with FE</strong></td>
<td>wr</td>
<td></td>
</tr>
<tr>
<td>P-value</td>
<td>0.36</td>
<td>0.56**</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.436</td>
<td>0.480</td>
</tr>
<tr>
<td><strong>SGMM</strong></td>
<td>wr</td>
<td></td>
</tr>
<tr>
<td>P-value</td>
<td>0.45*</td>
<td>0.62*</td>
</tr>
<tr>
<td>Hansen p-val</td>
<td>0.099</td>
<td>0.054</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.551</td>
<td>0.724</td>
</tr>
</tbody>
</table>
3. Results - Magnitude of effect

For WR/GDP ratio of 3%

- In FE case, every $1 increase in remittances causes GDP to increase by $0.20
Conclusion

• Significant evidence that workers’ remittances causing growth in developing countries

• Magnitude of growth is large
Policy Implications

• Policymakers should encourage remittances

• Enhance the growth effects of remittances
Future interests

- Growth model for remittances
  - Enable study of policy effects to maximize growth potential of remittances

- Factors driving remittance flows

- Channels through which remittances drive growth
Thank you!

Regan.Deonanan@sta.uwi.edu