

Domestic financial contributions for HIV/AIDS

How much should the countries contribute?

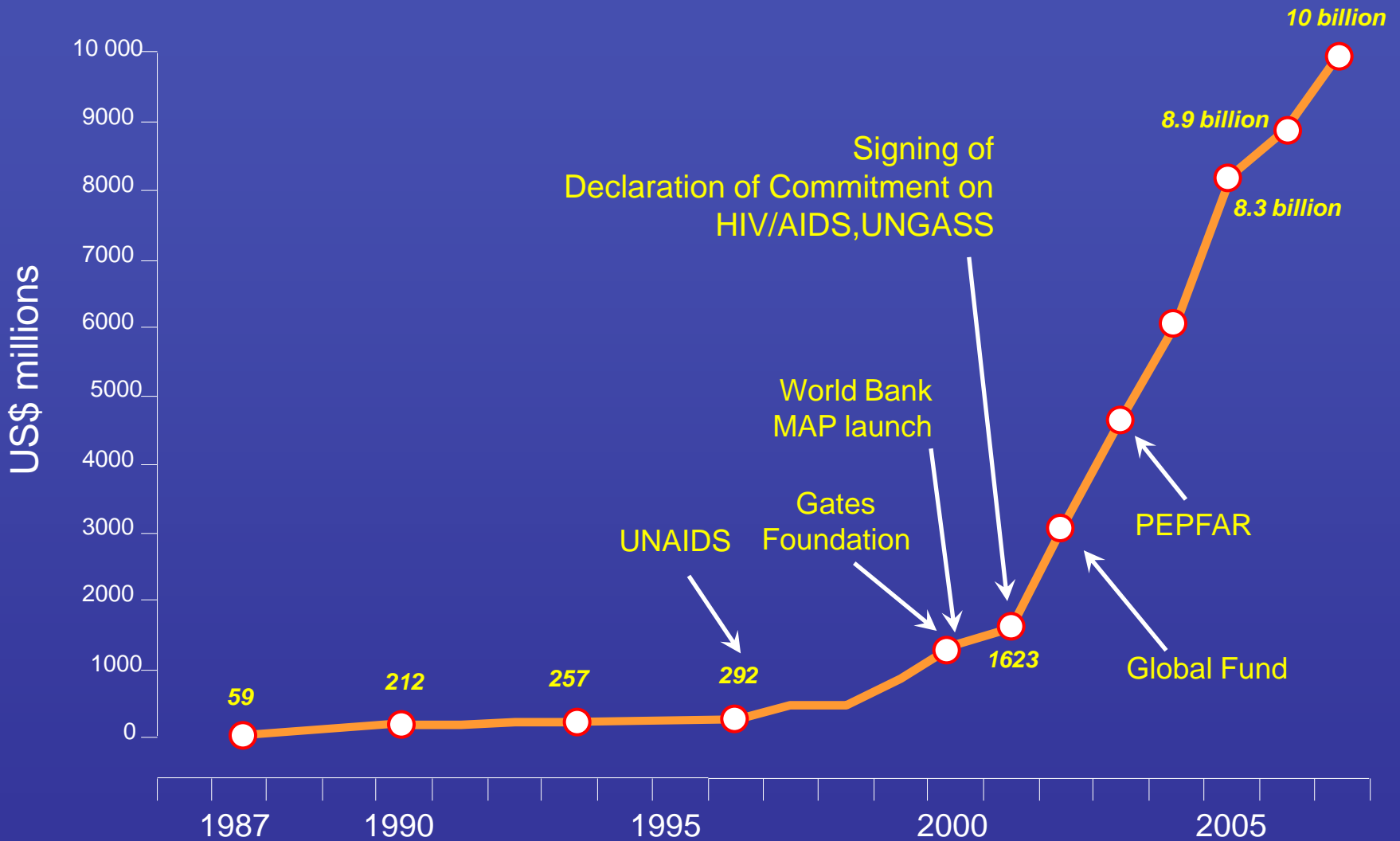
Veronika J. Wirtz, Omar Galárraga Yared Santa-Ana-Tellez
Steven S. Forsythe & Stefano M. Bertozzi

International AIDS Economics Network

July 16-17, 2010
Vienna Austria



Total available resources for HIV/AIDS



Global economic crisis 2008



Europe crisis 2010



Efficiency

Technical

Allocation { Donors
Recipients



Domestic Financial Contributions

More external aid can lead to decreases in domestic spending on health care in recipient countries

Debate about whether:

ODA make recipients dependent on donor funds instead of increase their willingness to contribute

Our model proposes a combination of **empirical** and **normative** analyses



Objective

To propose a general resource allocation model balancing:

countries' need

contribution from official development aid (ODA)

reasonable expected contribution from own resources



Data

Information about 78 countries from World Bank and UNAIDS sources (public and restricted data)

A model was constructed taking into account:

- a) the country's resource needs estimate (RNE) from UNAIDS
- b) the total official development aid (ODA)
- c) the expected domestic contribution (EDC)



Methods I

$$y = \beta_1 \log_GNI + \beta_2 \log_prev + \beta_3 (\text{GNI-health}) + \beta_4 \text{debt} + \varepsilon$$

y: domestic financial contribution for HIV

log_GNI: logarithm of GNI per capita

log_prev: logarithm of HIV prevalence

health: health expenditure per capita

debt: debt service per capita



Methods II

For low-income countries:

Calculate the median GNI per capita

Countries below the median value:

“expected contribution” was considered as the actual domestic contribution

Countries above the median were included in the contribution estimation



Methods III

Expected DFC: Domestic Financial Contribution estimated from model (\hat{y}) if $\hat{y} > y$

Calculate country's funding gap:

$$GAP = RNE - (ODA + \textit{expected DFC})$$

RNE: Resource Needs Estimate

ODA: Official Development Assistance

Gap is positive → country requires more funding

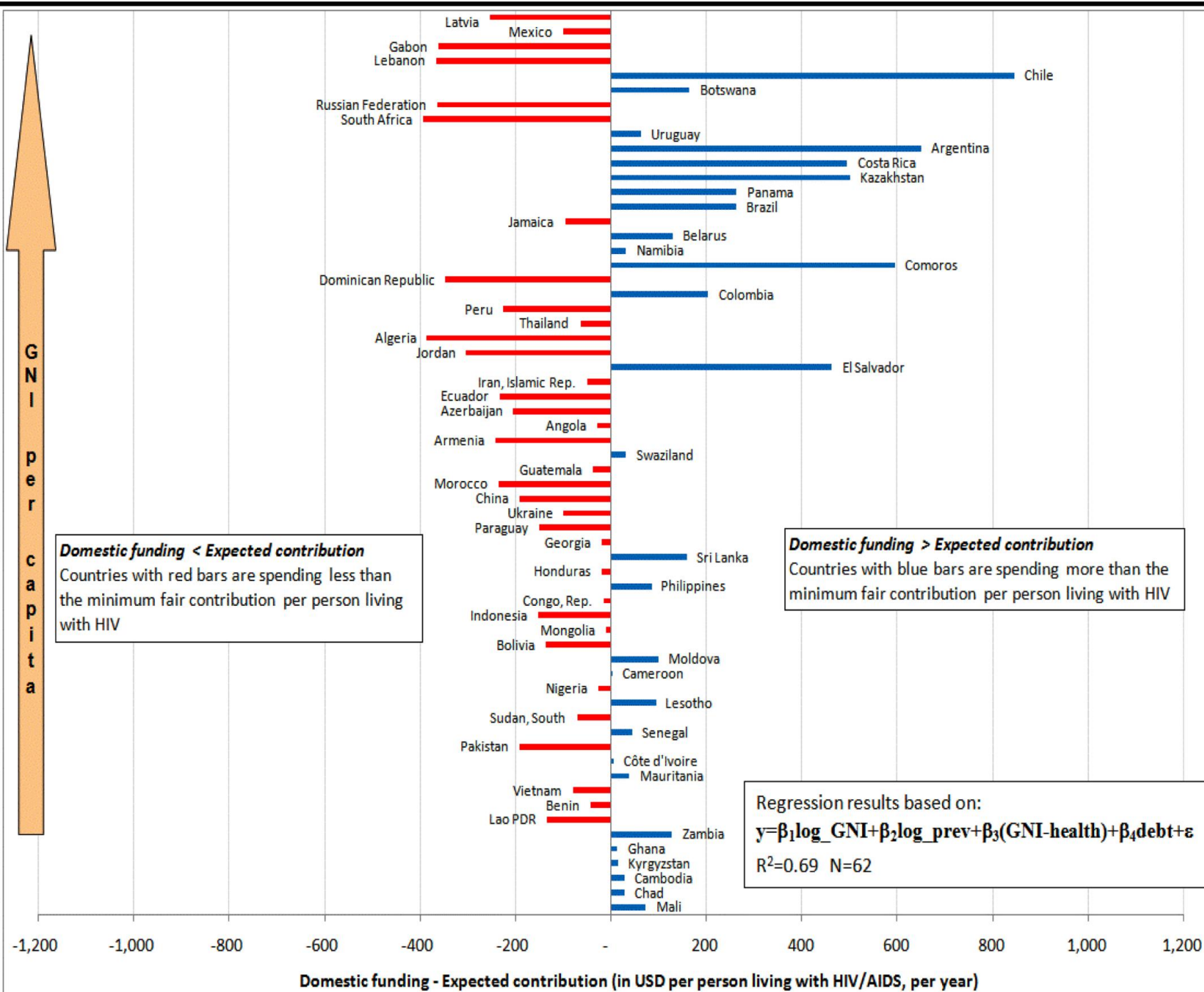
Gap is negative → country's funding exceeds needs



Results



GNI per capita



Domestic funding < Expected contribution
 Countries with red bars are spending less than the minimum fair contribution per person living with HIV

Domestic funding > Expected contribution
 Countries with blue bars are spending more than the minimum fair contribution per person living with HIV

Regression results based on:
 $y = \beta_1 \log_GNI + \beta_2 \log_prev + \beta_3 (GNI-health) + \beta_4 debt + \epsilon$
 $R^2 = 0.69$ $N = 62$

Domestic funding - Expected contribution (in USD per person living with HIV/AIDS, per year)

RN=RNE-ODA -FDC (US\$ per PLWHIV)

DC-FDC (US\$ per PLHIV)

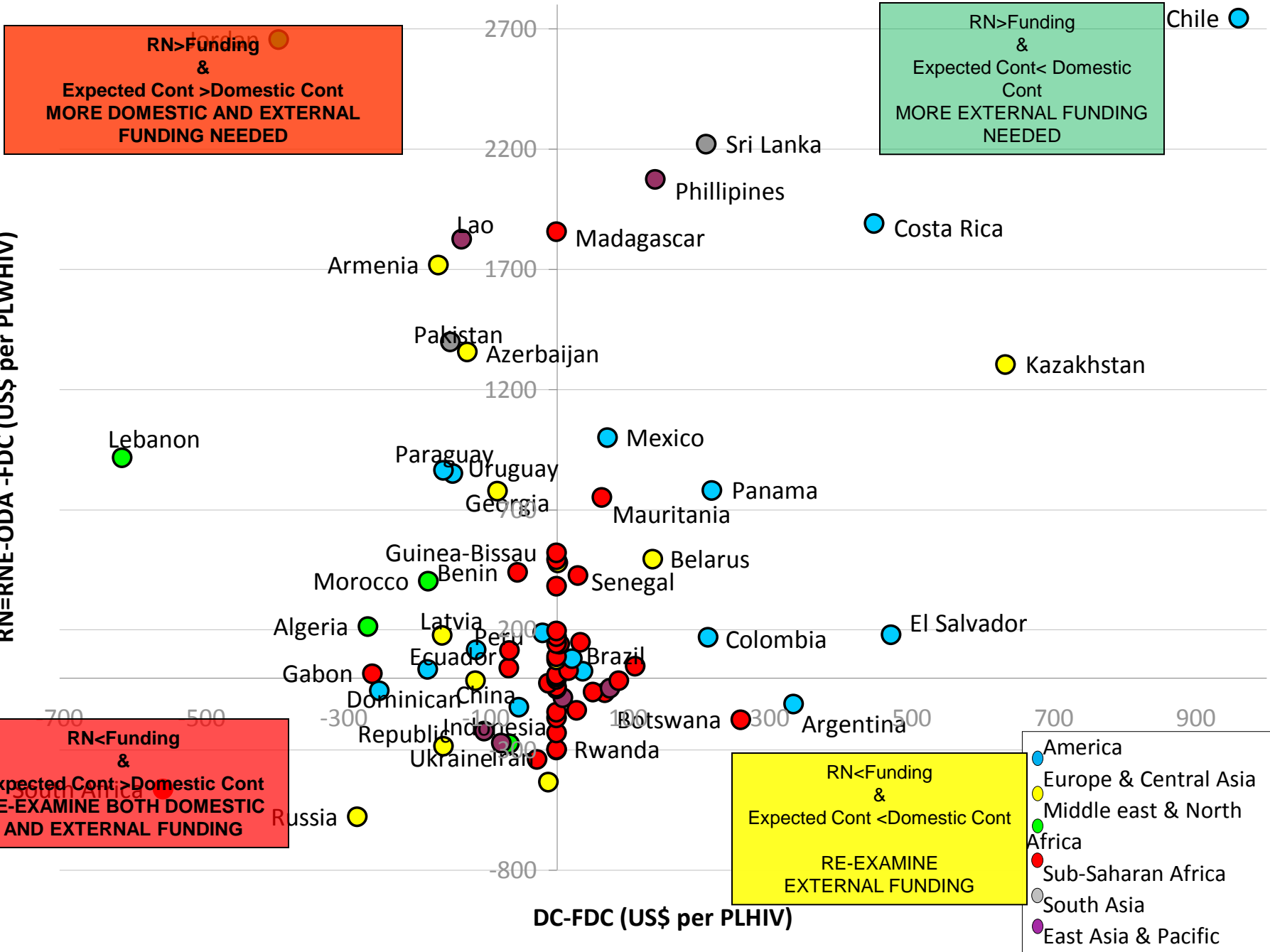
**RN>Funding
&
Expected Cont >Domestic Cont
MORE DOMESTIC AND EXTERNAL
FUNDING NEEDED**

**RN>Funding
&
Expected Cont< Domestic
Cont
MORE EXTERNAL FUNDING
NEEDED**

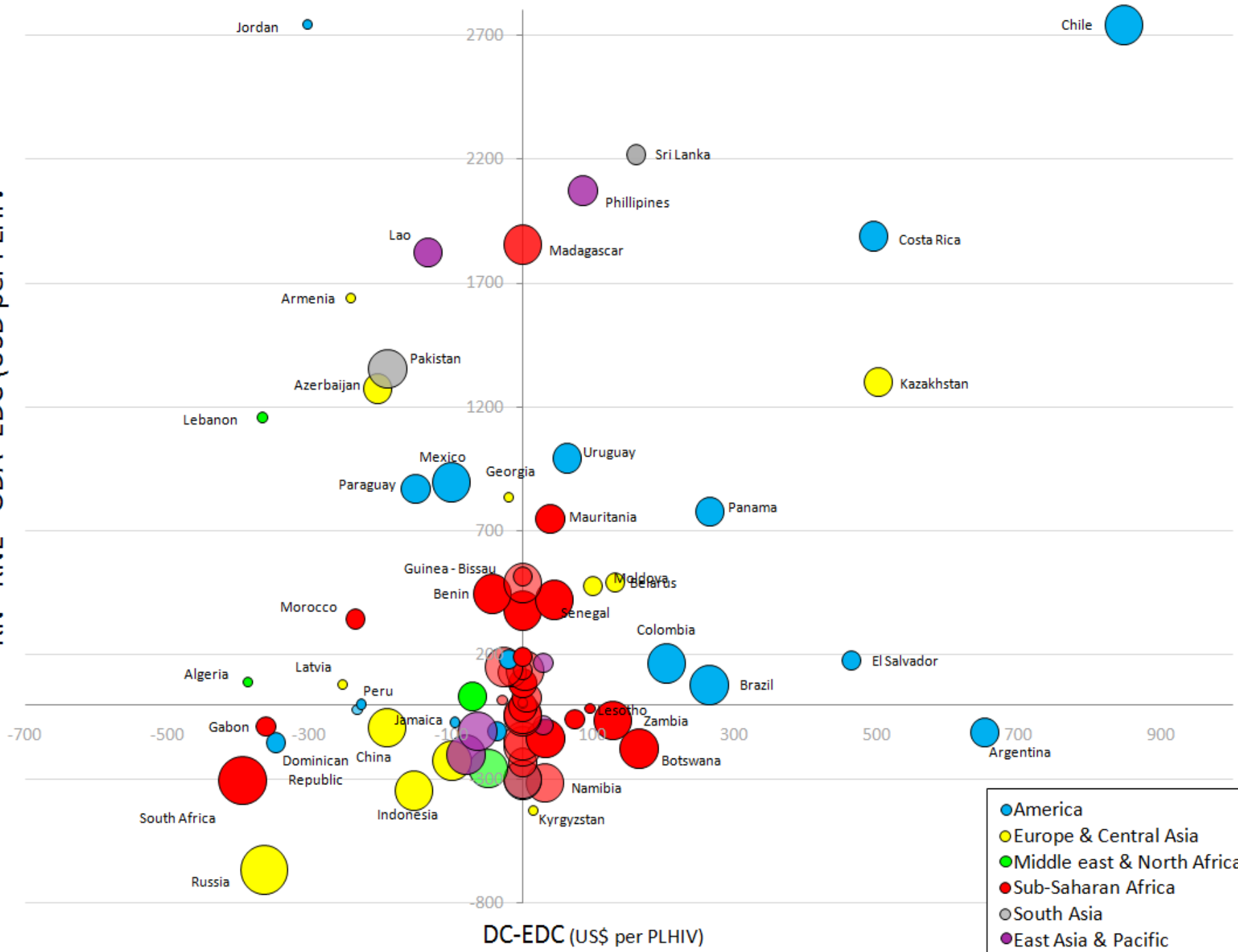
**RN<Funding
&
Expected Cont >Domestic Cont
RE-EXAMINE BOTH DOMESTIC
AND EXTERNAL FUNDING**

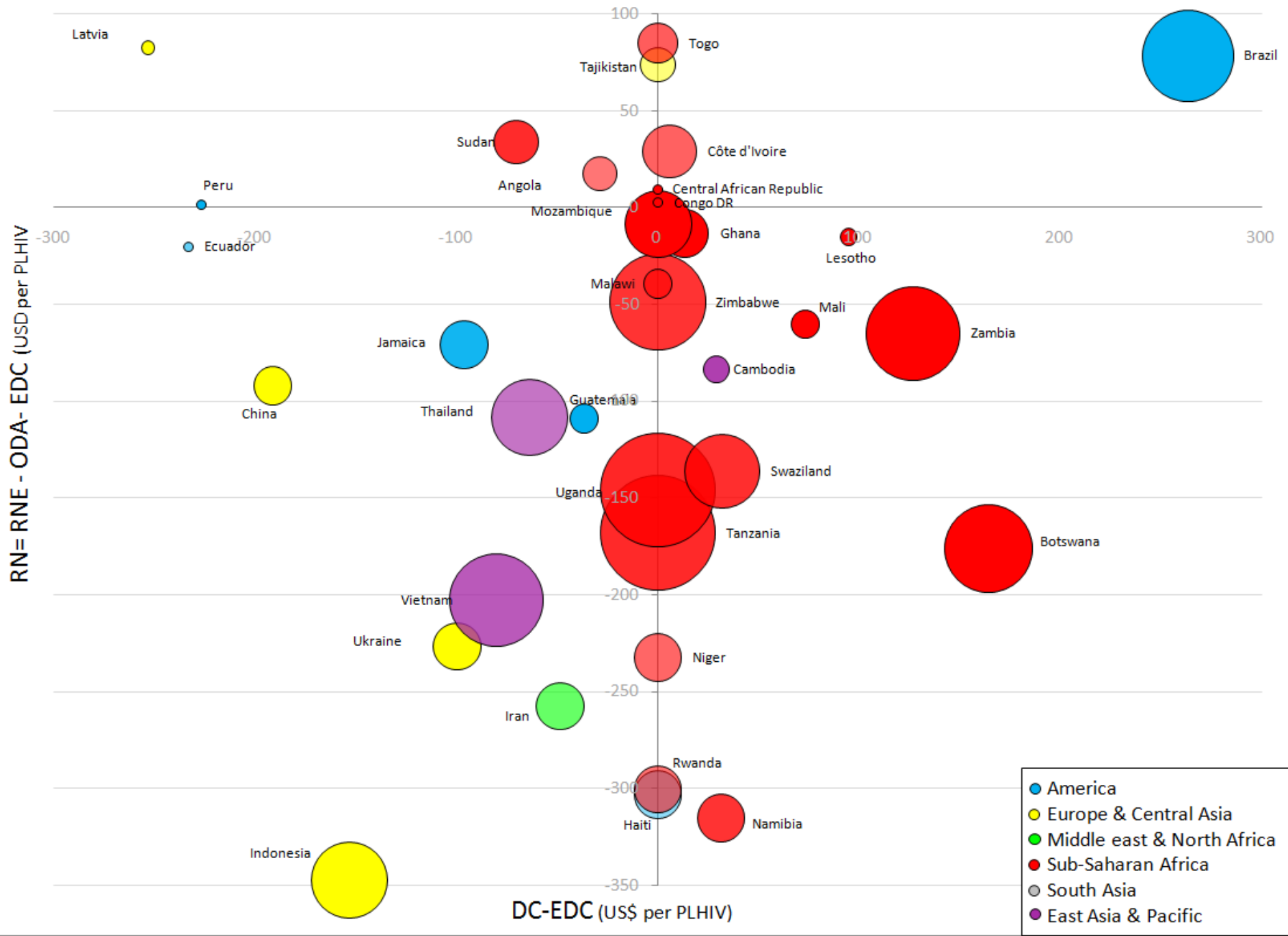
**RN<Funding
&
Expected Cont <Domestic Cont
RE-EXAMINE
EXTERNAL FUNDING**

- America
- Europe & Central Asia
- Middle east & North Africa
- Sub-Saharan Africa
- South Asia
- East Asia & Pacific



RN= RNE - ODA- EDC (USD per PLHIV)





Limitations

Paucity of data:

- Data not updated often

- Additional variables not available

- Different sources of data

- Lack of standardized methods

Data error: verification and validation?

A normative–empirical model: need to explore other alternatives – modifications?



Conclusion

General model to analyze domestic and external financial contributions for HIV

The combination of:

resource needs

+

countries' ability to generate its own resources
together with other external funding received

reflects key aspects when considering funding allocation

Model can be easily updated as new data become available



Acknowledgments

Funding for this research was provided by the Bill & Melinda Gates Foundation

We are grateful for research assistance from Rodrigo Medinilla and comments from Sergio Bautista-Arredondo (INSP), and Todd Summers (BMGF)

Resource Needs data were provided by UNAIDS (not to be released at the country level).

