Day 1 - Session 1
Introduction to CEQ
A Primer
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Learning Event on the Commitment to Equity Methodology

CEQ Institute and The World Bank

Washington, DC

July 11-13, 2016

Learning Event

- Day 1:
  - Methodology to produce a CEQ Assessment
  - Illustration with country results
  - Master Workbook

- Days 2:
  - Stata sessions

- Day 3:
  - Stata sessions
  - Checking protocol

https://goo.gl/ZWG9uW

📁 Agenda

📁 MasterWorkbook

📁 Presentations

📁 ReadingMaterials

📁 StataSessions

Day 1 - Session 1: Outline

- Commitment to Equity Institute: scope of work
- CEQ Assessment: methodological highlights
- CEQ Assessments: a glance at results
- CEQ Institute Services & Partnerships

CEQ Institute

Commitment to Equity Institute (CEQ Institute)

Objective: To measure the impact of fiscal policy on inequality and poverty in countries across the world

- Research-based policy tools
- CEQ Data Center on Fiscal Redistribution
- CEQ Advisory and Training Services
- Bridges to Policy

  ➢ Two grants from Bill & Melinda Gates Foundation US5.5 million for 2014-2020

  ➢ **www.commitmentoequity.org**

CEQ Institute: Core Staff

- **Director:** Nora Lustig
- **Director of Policy Area:** Ludovico Feoli
- **Associate Directors:** Maynor Cabrera, Jon Jellema, Estuardo Moran and Stephen Younger
- **Data Center Director:** Sean Higgins
- **Communications Director:** Carlos Martin del Campo
- **Research Associates:** Rodrigo Aranda, Koray Caglayan, Enrique de la Rosa, Ali Enami

In addition:

- **Advisory Board**
- **Nonresident Research Associates** (more than 40 worldwide)

Commitment to Equity Institute

- Working on close to 40 countries; covers around two thirds of the world population
- Collaborative efforts and partnerships with multiple organizations: ADB, AfDB, CAF, ERF, IDB, IMF, ICEFI, OECD, Oxfam, UNDP, World Bank
- Utilized by governments
- Publications: Handbook, Working Paper series, scholarly publications in peer-reviewed journals, book chapters, edited volume (in progress), blogs and policy briefs
- Website **www.commitmentoequity.org**

Handbook and Diagnostic Questionaire

Completed   In progress

www.commitmentoequity.org

CEQ Assessment

CEQ Assessment: Tools

- **CEQ Handbook 2016:** Lustig, Nora, editor. *Commitment to Equity Handbook. A Guide to Estimating the Impact of Fiscal Policy on Inequality and Poverty.* Tulane University. Fall 2016.

  A step-by-step guide to applying incidence analysis to assess the impact of fiscal policy on inequality and poverty with country studies to illustrate.

- **Master Workbook (MWB)**

  Excel spreadsheet that houses detailed background information and results from the CEQ analysis used as inputs for policy discussions, academic papers and policy reports. It contains internal links to produce summary tables automatically.

- **CEQ Stata Package**

   A suite of user-written Stata commands (i.e. Ado files) that automates the production of results and inputs these results directly in the Master Workbook. This software innovation very significantly reduces the probability of committing errors in the "copy-and-paste" process and saves an enormous amount of time compared to before.

- **Checking Protocol**

CEQ Assessments & World Bank

- Can be used in Poverty Assessments and Public Expenditure Reviews.

- Assess how much the fiscal system in specific countries is helping achieve the WB's twin goals of poverty reduction and shared prosperity.

- Governments are attracted by the idea of assessing the distributional impact of their fiscal system and/or policy reforms. Helps engagement and dialogue; opens possibility of new lending programs.

- Bottomline: The CEQ Assessments can help the WB operationalize the poverty reduction and shared prosperity talk.

CEQ Assessment Methodological Highlights

Nora Lustig (editor) Commitment to Equity Handbook. A Guide to Estimating the Impact of Fiscal Policy on Inequality and Poverty, Tulane University, Fall 2016.

Presents a step-by-step guide to applying incidence analysis to assess the impact of fiscal policy on inequality and poverty with country studies to illustrate.

The handbook has three parts.

Part I

- Presents the methodology developed by the Commitment to Equity (CEQ) Institute at Tulane University. It explains how taxes, subsidies, and social spending should be allocated and suggests estimation procedures when information on taxes and transfers is not available in the household survey.

- Describes the indicators that are used to assess the distributive impact and effectiveness of fiscal policy, and discusses their analytical underpinning.

- Chapters 2, 3, 4 and 5, in particular, present a step-by step guide to completing the Master Workbook of Results.

- Chapters 6 and 7 discuss the theoretical underpinning of fiscal redistribution.

Nora Lustig (editor) *Commitment to Equity Handbook. A Guide to Estimating the Impact of Fiscal Policy on Inequality and Poverty,* Tulane University, Fall 2016.

Part II

- Presents applications of the CEQ framework to middle and low income countries: Argentina, China, Colombia, El Salvador, Iran, Tunisia, and Uganda

- Simulations of policy reforms for Ghana and Tanzania

- Cross-country analysis

Part III

- Includes the Master Workbook of Results which houses detailed background information and results from the CEQ analysis used as inputs for policy discussions, academic papers and policy reports.

- Contains user-written software to complete the Master Workbook of Results.

- Guidelines for the implementation of CEQ Assessments, including a thorough protocol of quality control.

Handbook chapters covered today …

Chapter 3 - Allocating Taxes and Transfers, Constructing Income Concepts, and Completing Section C of CEQ Master Workbook (Sean Higgins and Nora Lustig)

Chapter 4- Constructing Consumable Income with Indirect Effects of Indirect Taxes and Subsidies (Gabriela Inchauste and Jon Jellema)

Chapter 5 - Producing Indicators and Results, and Completing Sections D and E of CEQ Master Workbook (Sean Higgins and Nora Lustig)

Chapter 6 - Analytical Foundations: Measuring the Redistributive Impact of Taxes and Transfers (Ali Enami, Nora Lustig and Rodrigo Aranda)
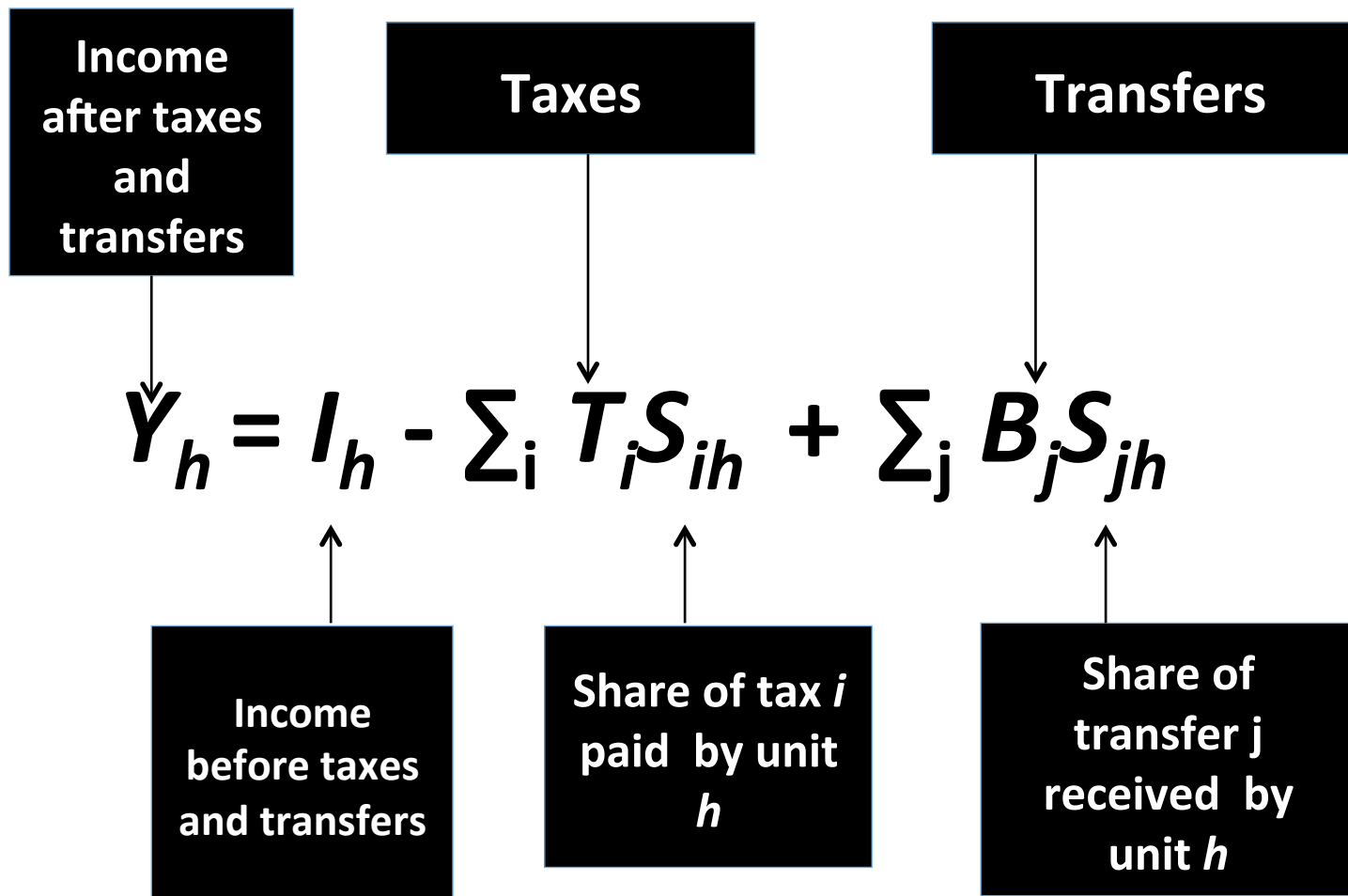
Chapter 14 - Measuring the Effectiveness of Taxes and Transfers in Fighting Poverty and Reducing Inequality in Iran (Ali Enami)

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CEQ Assessment: Method

- Comprehensive standard fiscal incidence analysis of current systems

- Harmonized definitions and methodological approaches to facilitate cross-country comparisons

- Uses income/consumption per capita as the welfare indicator

- Allocators vary => full transparency in the method used for each category, tax shifting assumptions, tax evasion

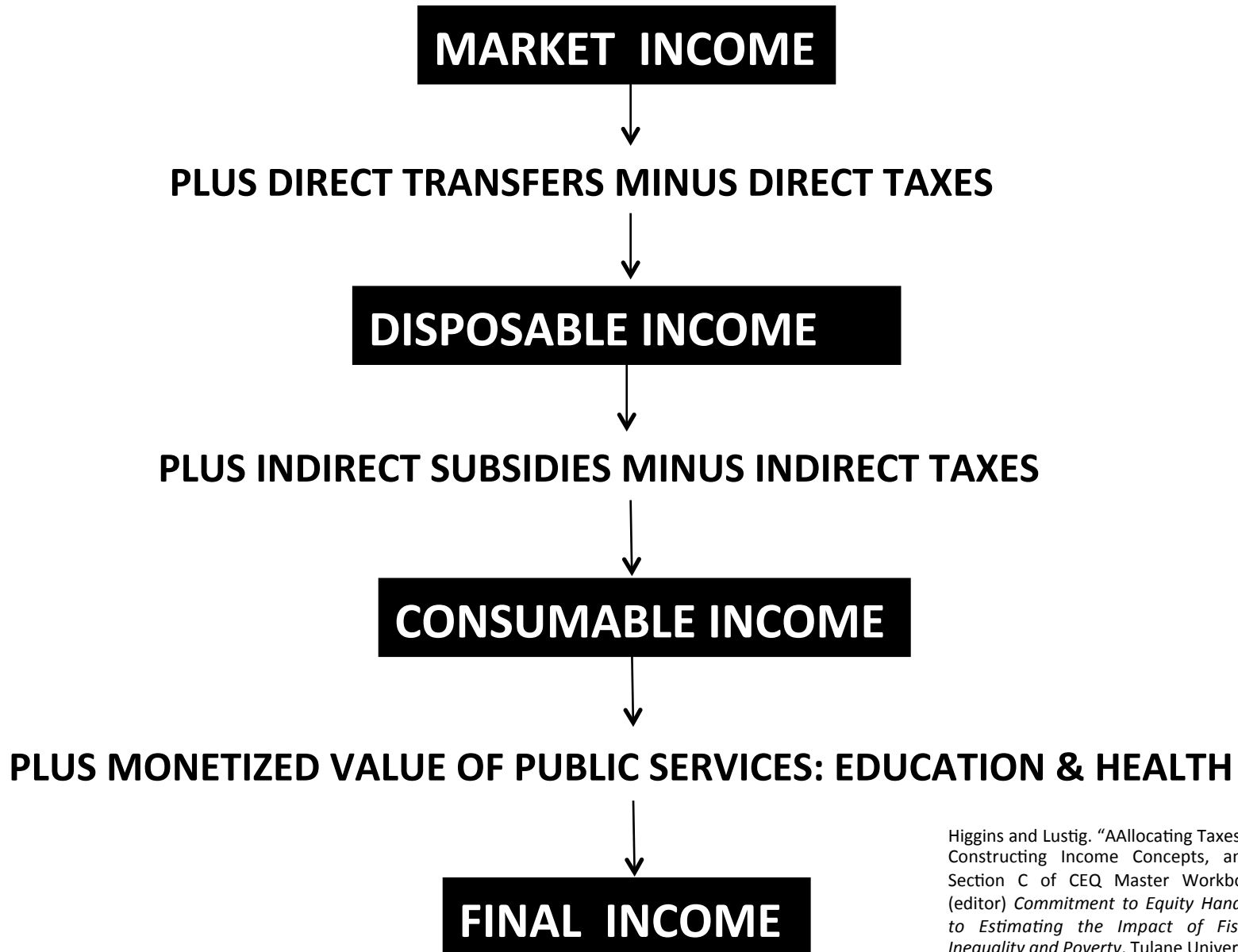- Secondary sources are used to a minimum

CEQ Assessment: Fiscal Incidence Analysis

Income after taxes and transfers

Taxes

Transfers

$$Y_h = I_h - \sum_i T_i S_{ih} + \sum_j B_j S_{jh}$$

Income before taxes and transfers

Share of tax *i* paid by unit *h*

Share of transfer j received by unit *h*

CEQ Assessment: Fiscal Interventions

- Currently included:

  - Direct taxes (mainly personal income tax and payroll taxes)

  - Direct cash transfers

  - Non-cash direct transfers such as school uniforms and breakfast

  - Contributions to pensions and social insurance systems

  - Indirect taxes on consumption

  - Indirect subsidies

  - In-kind transfers such as spending on education and health

- Working on:

  - Corporate taxes

CEQ Assessment: **Income Concepts**

MARKET INCOME

↓

PLUS DIRECT TRANSFERS MINUS DIRECT TAXES

↓

DISPOSABLE INCOME

↓

PLUS INDIRECT SUBSIDIES MINUS INDIRECT TAXES

↓

CONSUMABLE INCOME

↓

PLUS MONETIZED VALUE OF PUBLIC SERVICES: EDUCATION & HEALTH

↓

FINAL INCOME

Higgins and Lustig. "AAllocating Taxes and Transfers, Constructing Income Concepts, and Completing Section C of CEQ Master Workbook" in Lustig (editor) *Commitment to Equity Handbook. A Guide to Estimating the Impact of Fiscal Policy on Inequality and Poverty*, Tulane University, Fall 2016.

Fiscal Incidence in CEQ Assessments

- Accounting approach
  - no behavioral responses
  - no general equilibrium effects and
  - no intertemporal effects
  - but it incorporates assumptions to obtain economic incidence (not statutory)
- Point-in-time
- Mainly average incidence; a few cases with marginal incidence

Allocation Methods

- Direct Identification in microdata
  - However, results must be checked: how realistic are they?

- If information not directly available in microdata, then:
  - Simulation
  - Imputation
  - Inference
  - Prediction
  - Alternate survey
  - Secondary sources

Tax Shifting Assumptions

- Economic burden of direct personal income taxes is borne by the recipient of income

- Burden of payroll and social security taxes is assumed to fall entirely on workers

- Consumption taxes are assumed to be shifted forward to consumers.

- These assumptions are strong because they imply that labor supply is perfectly inelastic and that consumers have perfectly inelastic demand

- In practice, they provide a reasonable approximation (with important exceptions such as when examining effect of VAT reforms), and they are commonly used

Tax Evasion Assumptions: Case Specific

- Income taxes and contributions to SS:
    - Individuals who do not participate in the contributory social security system are assumed not to pay them

- Consumption taxes
    - Place of purchase: informal markets are assumed not to charge them
    - Some country teams assumed small towns in rural areas do not to pay them

Monetizing in-kind transfers

- Incidence of public spending on education and health followed so-called "benefit or expenditure incidence" or the "government cost" approach.

- In essence, we use per beneficiary input costs obtained from administrative data (and scale them down) as the measure of average benefits.

- This approach amounts to asking the following question:
  - ➢ How much would the income of a household have to be increased if it had to pay for the free or subsidized public service at the full cost to the government?

Treatment of Contributory Social Insurance Pensions

- Deferred Income?

- Government Transfer?

Treatment of Contributory Social Insurance Pensions: Deferred Income

- In "actuarially" fair systems:
  - Contributions are not a tax but are a form of forced savings
  - Pensions are not transfers but deferred income
  - However, there usually is redistribution within the system from:
    - High earners to low earners
    - From workers who contribute but don't reach the required minimum of years as active contributors to workers who do

    ➤ Very difficult to measure with information in typical household surveys

Treatment of Contributory Social   Insurance Pensions: Pensions are part of labor contract

- In systems where pensions of public sector employees are part of the labor contract in a competitive market:
  - Contributions are not a tax but forced savings
  - Pensions are not transfers but deferred income, regardless of whether the system is actuarially fair or not because pensions over and above the capitalized contributions are part of remunerations
  - Here there also might be some redistribution within the system from:
    - High earners to low earners
    - From workers who contribute but don't reach the required minimum of years as active contributors to workers who do

    ➢ Very difficult to measure with information in typical household surveys

Treatment of Contributory Social Insurance Pensions: Transfer

- In systems that are not actuarially fair:
  - Contributions are a tax
  - Pensions are transfers
  - There is redistribution within the system from:
    - High earners to low earners
    - From workers who contribute but don't reach the required minimum of years in the labor force to workers who do
    - AND from taxpayers in general to the pensioners

Treatment of Contributory Social Insurance Pensions: Transfer

However, what is the size of the "subsidy"?

- Correct/ideal: The difference between what people would have received based on contributions and what they actually receive
  - Household surveys do not usually have the information to calculate this

- In practice: income from contributory pensions are treated as a government transfer

- A more realistic alternative: consider the deficit of the Social Security system as the size of the subsidy and allocate it to individuals based on the distribution of pension income

- Deficits that are part of transition from one system to another will exaggerate the impact

Treatment of Contributory Social Insurance Pensions in CEQ:

Two extreme scenarios:

- Deferred income in actuarially fair systems: pensions included in *pre-fiscal income* and contributions treated as mandatory savings

- Government transfer: pensions included among direct transfers and contributions treated as a direct tax

Lustig & Higgins (2013)

Scenarios and Robustness Checks

- Benchmark scenario
- Sensitivity to:
  - Changing the original income by which hh are ranked: e.g., market income plus contributory pensions and disposable income
  - Using consumption vs. income
  - Per capita vs. equivalized income or consumption
  - Different assumptions on scaling-down or up
  - Different assumptions on take-up of transfers and tax shifting and evasion
  - Alternative valuations of in-kind services
  - Other sensitivity scenarios: country-specific

Lustig & Higgins (2013)

CEQ Assessments
A Glance at Results

Lustig. "Fiscal Redistribution in Low and Middle Income Countries." Chapter 8 in Lustig (editor) *Commitment to Equity Handbook. A Guide to Estimating the Impact of Fiscal Policy on Inequality and Poverty,* Tulane University and the World Bank, Fall 2016.

Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)

1. Argentina (2012-13; I): Rossignolo, D. 2016. "Taxes, Expenditures, Poverty and Income Distribution in Argentina." CEQ Working Paper No. 45, CEQ Institute, Tulane University. (forthcoming).

Rossignolo, D. 2016. CEQ Master Workbook: Argentina, February 29. CEQ Institute, Tulane University.

2. Armenia (2011; I): Younger, Stephen D., and Artsvi Khachatryan. forthcoming. "Fiscal Incidence in Armenia," in: Inchauste, G., Lustig, N. (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C. (forthcoming).

Younger, S. and A. Khachatryan. 2014. CEQ Master Workbook: Armenia, May 31. CEQ Institute, Tulane University and the World Bank.

3. Bolivia (2009; I): Paz Arauco, Verónica, George Gray Molina, Wilson Jiménez Pozo, and Ernesto Yáñez Aguilar. 2014. "Explaining Low Redistributive Impact in Bolivia." In Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review*, May, Volume 42, Issue 3. (September 22, 2014).

Paz Arauco, V., G. Gray-Molina, W. Jimenez and E. Yañez. 2014. CEQ Master Workbook: Bolivia, September 22, CEQ Institute, Tulane University.

4. Brazil (2008-09; I): Higgins, Sean and Claudiney Pereira. 2014. "The Effects of Brazil's Taxation and Social Spending on the Distribution of Household Income." In Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review*, May, Volume 42, Issue 3. (November 4, 2014).

Higgins, S. and C. Pereira. 2016 CEQ Master Workbook: Brazil, January 4. CEQ Institute, Tulane University.

5. Chile (2013, I): Martínez-Aguilar, S., A. Fuchs and E. Ortiz-Juarez. 2016. "The Impact of Fiscal Policy on Inequality and Poverty in Chile." CEQ Working Paper No. 46, CEQ Institute, Tulane University and World Bank. (forthcoming).

Martínez-Aguilar, S. and E. Ortiz-Juarez. 2016. CEQ Master Workbook: Chile, in progress. CEQ Institute, Tulane University and World Bank.

6. Colombia (2010, I): Lustig, Nora and Marcela Melendez. 2015. "The Impact of Taxes and Transfers on Inequality and Poverty in Colombia". CEQ Working Paper No 24, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue. Forthcoming.

Melendez, M. and V. Martínez. 2015. CEQ Master Workbook: Colombia, December 17. CEQ Institute, Tulane University and Inter-American Development Bank.

Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)

7. Costa Rica (2010; I): Sauma, Juan and Diego Trejos. 2014. "Social public spending, taxes, redistribution of income, and poverty in Costa Rica." CEQ Working Paper No. 18, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue.

Sauma, P. and J. D. Trejos. 2014. CEQ Master Workbook: Costa Rica, February. CEQ Institute, Tulane University.

8. Dominican Republic (2006-07, I): Aristy-Escuder, J., M. Cabrera, B. Moreno-Dodson and M. E. Sánchez-Martín. 2016. "Fiscal policy and redistribution in the Dominican Republic." CEQ Working Paper No 37, CEQ Institute. (forthcoming). Note: budgetary data was for 2013.

Aristy-Escuder, J., M. Cabrera, B. Moreno-Dodson and M. E. Sánchez-Martín. 2016. CEQ Master Workbook: Dominican Republic, May 10. CEQ Institute, Tulane University and the World Bank.

9. Ecuador (2011-12, I): Llerena Pinto, Freddy Paul, María Christina Llerena Pinto, Roberto Carlos Saá Daza, and María Andrea Llerena Pinto. "Social Spending, Taxes and Income Redistribution in Ecuador." CEQ Working Paper No. 28, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue.

Llerena, F., M. C. Llerena, M. A. Llerena and R. Saá. 2014. CEQ Master Workbook: Ecuador, November 7. CEQ Institute, Tulane University.

10. El Salvador (2011; I): Beneke, M. and J. A. Oliva. 2015. CEQ Master Worbook: El salvador, July 10. CEQ Institute, Tulane University and Instituto Centroamericano de Estudios Fiscales and International Fund for Agricultural Development.

11. Ethiopia (2011; C): Hill, Ruth, Gabriela Inchauste, Nora Lustig, Eyasu Tsehaye and Tassew Woldehanna. forthcoming. "A Fiscal Incidence Analysis for Ethiopia," in: Inchauste, G., Lustig, N. (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C (forthcoming).

Hill, R., E. Tsehaye and T. Woldehanna. 2014. CEQ Master Workbook: Ethiopia, September 28. CEQ Institute, Tulane University and the World Bank.

Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)

12. European Union (2011, I) : EUROMOD statistics on Distribution and Decomposition of Disposable Income, accessed at http://www.iser.essex.ac.uk/euromod/statistics/ using EUROMOD version no. G2.0.

13. Georgia (2013; I): Cancho, Cesar and Elena Bondarenko. forthcoming. "The Distributional Impact of Fiscal Policy in Georgia," in: Inchauste, G., Lustig, N. (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C (forthcoming).

Cancho, C. and E. Bondarenko. 2015. CEQ Master Workbook: Georgia, December 31. CEQ Institute, Tulane University and the World Bank.

14. Ghana (2012-13; C): Younger, S., E. Osei-Assibey and F. Oppong. 2015. "Fiscal Incidence in Ghana." CEQ Working Paper No. 35, Center for Inter-American Policy and Research and Department of Economics, Tulane University, Ithaca College, University of Ghana and World Bank.

Younger, S., E. Osei-Assibey and F. Oppong. 2016. CEQ Master Workbook: Ghana, February 10. CEQ Institute, Tulane University.

15. Guatemala (2011; I): Cabrera, M and H. E. Morán. 2015. CEQ Master Workbook: Guatemala, May 6. CEQ Institute, Tulane University, Instituto Centroamericano de Estudios Fiscales and International Fund for Agricultural Development.

16. Honduras (2011; I): Castañeda, R. and I. Espino. 2015. CEQ Master Workbook: Honduras, August 18. CEQ Institute, Tulane University, Instituto Centroamericano de Estudios Fiscales and International Fund for Agricultural Development.

Castañeda, R. and I. Espino. 2015. CEQ Master Workbook: Honduras, August 18. CEQ Institute, Tulane University, Instituto Centroamericano de Estudios Fiscales and International Fund for Agricultural Development.

17. Indonesia (2012; C): Afkar, Rythia, Jon Jellema, and Mathew Wai-Poi. forthcoming. "The Distributional Impact of Fiscal Policy in Indonesia," in: Inchauste, Gabriela and Nora Lustig (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C (forthcoming).

Jellema, J., M. Wai_Poi and R. Afkar. 2015. CEQ Master Workbook: Indonesia, February 26. CEQ Institute, Tulane University and the World Bank.

Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)

18. Jordan (2010-11; C): Alam, Shamma A. , Gabriela Inchauste, and Umar Serajuddin. forthcoming. "The Distributional Impact of Fiscal Policy in Jordan," in: Inchauste, G., Lustig, N. (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C (forthcoming).

Abdel-Halim, M., S. Adeeb Alam, Y. Mansur, U. Serajuddin and P. Verme. 2016. CEQ Master Workbook: Jordan, March 8. CEQ Institute, Tulane University and the World Bank.

19. Mexico (2010; C & I): Scott, John. 2014. "Redistributive Impact and Efficiency of Mexico's Fiscal System." In Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review*, May, Volume 42, Issue 3. (September 2013).

Scott, J. 2013. CEQ Master Workbook: Mexico, September 2. CEQ Institute, Tulane University.

20. Peru (2009; I): Jaramillo, Miguel. 2014. "The Incidence of Social Spending and Taxes in Peru." In Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review*, May, Volume 42, Issue 3. (May 1, 2013).

Jaramillo, M. 2015. CEQ Master Workbook: Peru, August 7. CEQ Institute, Tulane University.

21. Russia (2010; I): Lopez-Calva, Luis F. , Nora Lustig, Mikhail Matytsin, and Daria Popova. forthcoming. "Who Benefits from Fiscal Redistribution in Russia?," in: Inchauste, G., Lustig, N. (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C. (forthcoming).

Malytsin, M. and D. Popova. 2016. CEQ Master Workbook: Russia, March 17. CEQ Institute, Tulane University and the World Bank.

Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)

22. South Africa (2010-11; I): Inchauste, Gabriela, Nora Lustig, Mashekwa Maboshe, Catriona Purfield and Ingrid Wollard. forthcoming. "The Distributional Impact of Fiscal Policy in South Africa," in: Inchauste, G., Lustig, N. (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C. (forthcoming).

Inchauste, G., N. Lustig, M. Maboshe, C. Purfield, I. Woolard and P. Zikhali. 2016. CEQ Master Workbook: South Africa, March 6. CEQ Institute, Tulane University and the World Bank.

23. Sri Lanka (2010; C): Arunatilake, Nisha, Gabriela Inchauste and Nora Lustig. forthcoming. "The Incidence of Taxes and Spending in Sri Lanka," in: Inchauste, G., Lustig, N. (Eds.), The Distributional Impact of Fiscal Policy: Experience from Developing Countries. World Bank, Washington, D.C. (forthcoming).

Arunatilake, N., C. Gomez, N. Perera and K. Attygalle. 2016. CEQ Master Workbook: Sri Lanka, March 10. CEQ Institute, Tulane University and the World Bank.

24. Tanzania (2011-12; C): Younger, Stephen, Flora Myamba, and Kenneth Mdadila. 2016. "Fiscal Incidence in Tanzania." CEQ Working Paper No. 36, Center for Inter-American Policy and Research and Department of Economics, Tulane University, Ithaca College and REPOA.

Younger, S., F. Myamba, and K. Mdadila. 2016. CEQ Master Workbook: Tanzania, June 1st. CEQ Institute, Tulane University.

25. Tunisia (2010, C): Shimeles, Abebe, Ahmed Moummi, Nizar Jouini and Nora Lustig. 2016. "Fiscal Incidence and Poverty Reduction: Evidence from Tunisia," CEQ Working Paper No. 38, Commitment to Equity Institute, Tulane University. (forthcoming).

Shimeles, A., A. Moummi, N. Jouini and N. Lustig. 2015. CEQ Master Workbook: Tunisia, October 1. CEQ Institute, Tulane University and African Development Bank.

26. United States (2011, I): Higgins, Sean, Nora Lustig, Whitney Ruble and Timothy Smeeding (2015), "Comparing the Incidence of Taxes and Social Spending in Brazil and the United States", Review of Income and Wealth, forthcoming.

27. Uruguay (2009; I): Bucheli, Marisa, Nora Lustig, Máximo Rossi, and Florencia Amábile. 2014. "Social Spending, Taxes and Income Redistribution in Uruguay." In: Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review*, May, Volume 42, Issue 3. (August 18, 2014)

Bucheli, M., N. Lustig, M. Rossi and F. Amábile. 2014. CEQ Master Workbook: Uruguay, August 18. CEQ Institute, Tulane University.

Household surveys by country, year

1. **Argentina (2012-13; I):** Encuesta Nacional de Gasto de los Hogares 2012-2013

2. **Armenia (2011;I):** Integrated Living Conditions Survey 2011

3. **Bolivia (2009; I):** Encuesta de Hogares 2009

4. **Brazil (2008-09; I):** Pesquisa de Orçamentos Familiares 2008-2009

5. **Chile (2013, I):** Encuesta de Caracterización Social 2013

6. **Colombia (2010, I):** Encuesta Nacional de Calidad de Vida 2010

7. **Costa Rica (2010; I):** Encuesta Nacional de Hogares 2010

8. **Dominican Republic (2006-07; I):** Encuesta Nacional de Ingresos y Gastos de Los Hogares 2006-2007

9. **Ecuador (2011-12, I):** Encuesta Nacional de Ingresos y Gastos de los Hogares Urbano y Rural, 2011-2012

10. **El Salvador (2011; I):** Encuesta de Hogares De Propositos Multiples 2011

11. **European Union:** see EUROMOD statistics on Distribution and Decomposition of Disposable Income, http://www.iser.essex.ac.uk/euromod/statistics

12. **Ethiopia (2010-11; C):** Household Consumption Expediture Survey 2010 -2011 and Welfare Monitoring Survey 2011 G

13. **Georgia (2013; I):** Integrated Household Survey 2013

14. **Ghana (2012-13; C):** Living Standards Survey 2012-2013

15. **Guatemala (2011; I):** Encuesta Nacional de Condiciones de Vida 2011

Note: The letters "I" and "C" indicate that the study used income or consumption data, respectively.

Household surveys by country, year

16. **Honduras (2011; I):** Encuesta Permanente de Hogares de Propósitos Múltiples 2011

17. **Indonesia (2012; C):** Survei Sosial-Ekonomi Nasional 2012

18. **Jordan (2010-11; C):** Household Expenditure and Income Survey 2010-2011

19. **Mexico (2010; C & I):** Encuesta Nacional de Ingreso y Gasto de los Hogares 2010

20. **Peru (2009; I):** Encuesta Nacional de Hogares 2009

21. **Russia (2010; I):** Russian Longitudinal Monitoring Survey of Higher School of Economics 2010

22. **South Africa (2010-11; I):** Income and Expenditure Survey 2010-2011

23. **Sri Lanka (2009-10; C):** Household Income and Expenditure Survey 2009-2010

24. **Tanzania (2011-12; C):** Household Budget Survey 2011-2012

25. **Tunisia (2010; C):** National Survey of Consumption and Household Living Standards 2010

26. **United States (2011, I):** Current Population Survey 2011

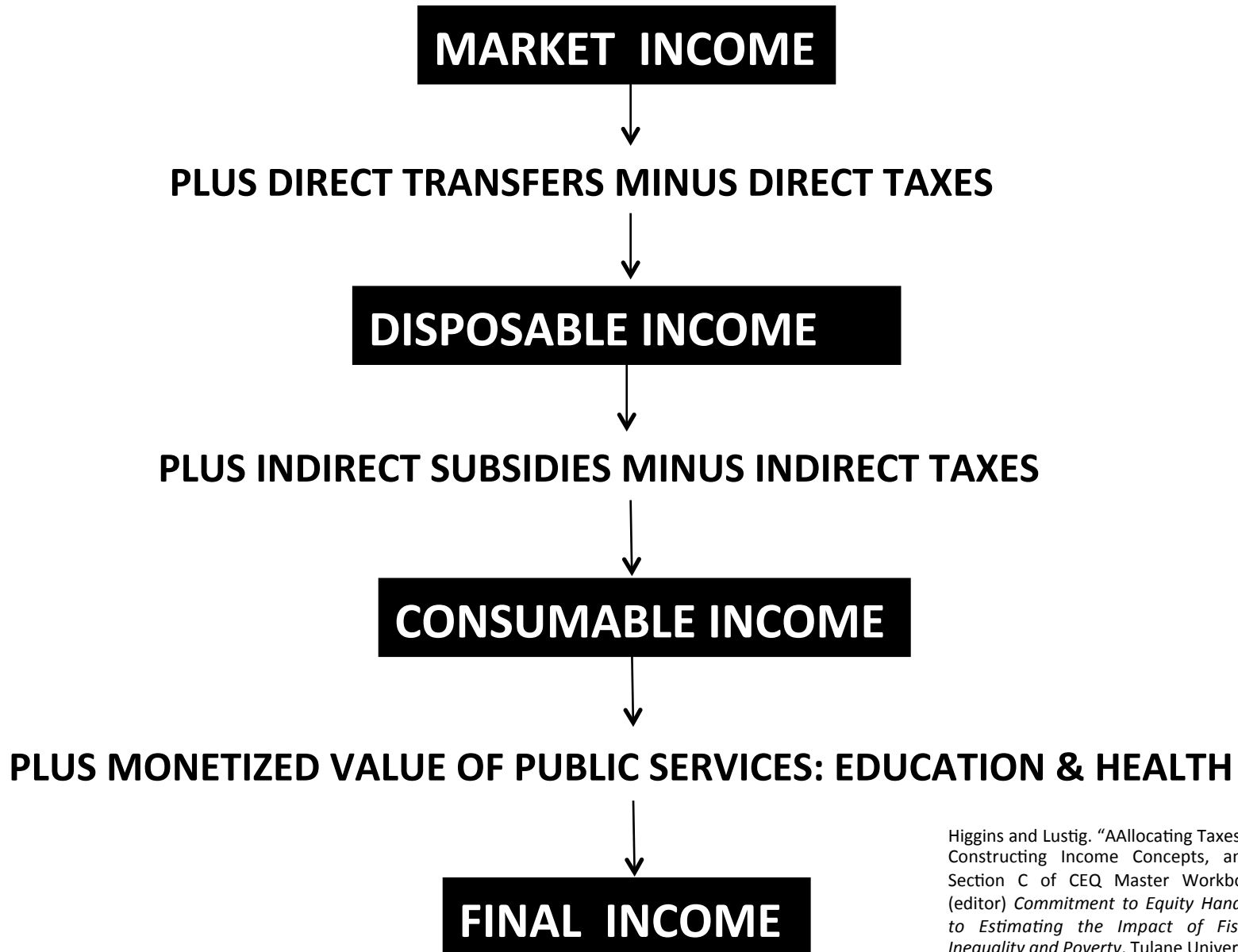27. **Uruguay (2009; I):** Encuesta Continua de Hogares 2009

Note: The letters "I" and "C" indicate that the study used income or consumption data, respectively.

- Empirical results for 25 (of which 10 from CEQ-WB projects) countries based on fiscal incidence studies from the Commitment to Equity Institute for around 2010

  - Two low-income countries: **Ethiopia** (Hill et al., 2016) and **Tanzania** (Younger et al., 2016)

  - Nine lower middle-income countries: **Armenia** (Younger and Khachatryan, 2016), **Bolivia** (Paz-Arauco et al., 2014), **El Salvador** (Beneke, Lustig and Oliva, 2014), **Georgia** (Cancho and Bondarenko, 2016), **Ghana** (Younger et al., 2015), **Guatemala** (Cabrera, Lustig and Moran, 2015), **Honduras** (Castañeda and Espino, 2015), **Indonesia** (Afkar et al., 2016), and **Sri Lanka** (Arunatilake et al., 2016)

  - Eleven upper middle-income countries: **Brazil** (Higgins and Pereira, 2014), **Colombia** (Lustig and Melendez, 2016), **Costa Rica** (Sauma and Trejos, 2014), **Dominican Republic** (Aristy-Escuder et al., 2016), **Ecuador** (Llerena et al., 2015), **Jordan** (Alam et al., 2016), **Mexico** (Scott, 2014), **Peru** (Jaramillo, 2014), **Russia** (Lopez-Calva et al., 2016), **South Africa** (Inchauste et al., 2016), and **Tunisia** (Shimeles et al., 2016)

  - Two high-income countries: **Chile** (Martinez-Aguilar et al., 2016), and **Uruguay** (Bucheli et al., 2014).

  - One unclassified: **Argentina** (Rossignolo, 2016)

    For the current 2017 fiscal year, low-income economies are defined as those with a GNI per capita, calculated using the World Bank Atlas method, of $1,025 or less in 2015; lower middle-income economies are those with a GNI per capita between $1,026 and $4,035; upper middle-income economies are those with a GNI per capita between $4,036 and $12,475; high-income economies are those with a GNI per capita of $12,476 or more. (onsulted on July 13, 2016)

FISCAL REDISTRIBUTION

CEQ Assessment: **Income Concepts**

MARKET INCOME

↓

PLUS DIRECT TRANSFERS MINUS DIRECT TAXES

↓

DISPOSABLE INCOME

↓

PLUS INDIRECT SUBSIDIES MINUS INDIRECT TAXES

↓

CONSUMABLE INCOME

↓

PLUS MONETIZED VALUE OF PUBLIC SERVICES: EDUCATION & HEALTH

↓

FINAL INCOME

Higgins and Lustig. "AAllocating Taxes and Transfers, Constructing Income Concepts, and Completing Section C of CEQ Master Workbook" in Lustig (editor) *Commitment to Equity Handbook. A Guide to Estimating the Impact of Fiscal Policy on Inequality and Poverty*, Tulane University, Fall 2016.

Inequality

Fiscal Policy and Inequality –
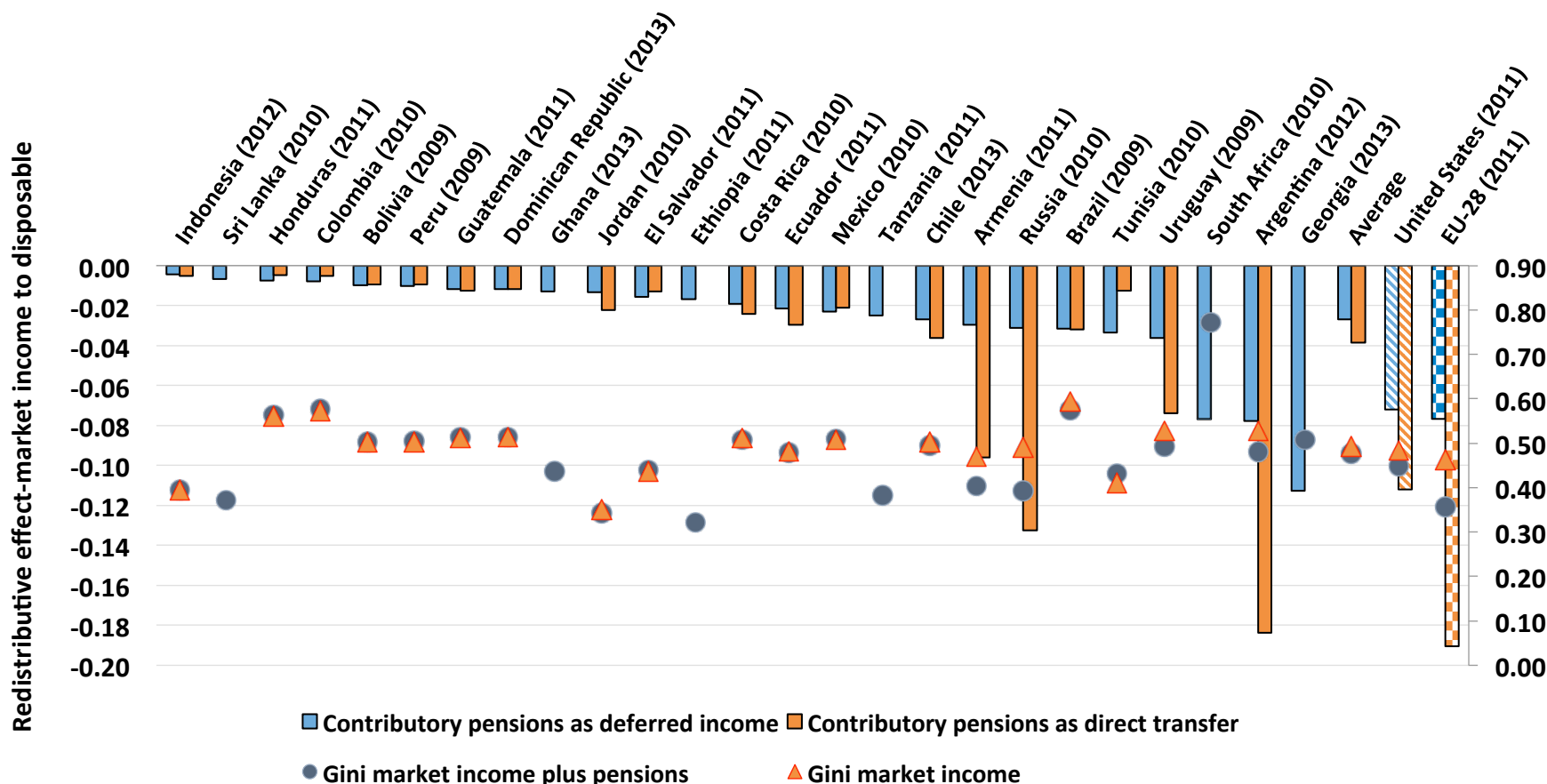# Contributory pensions as deferred income
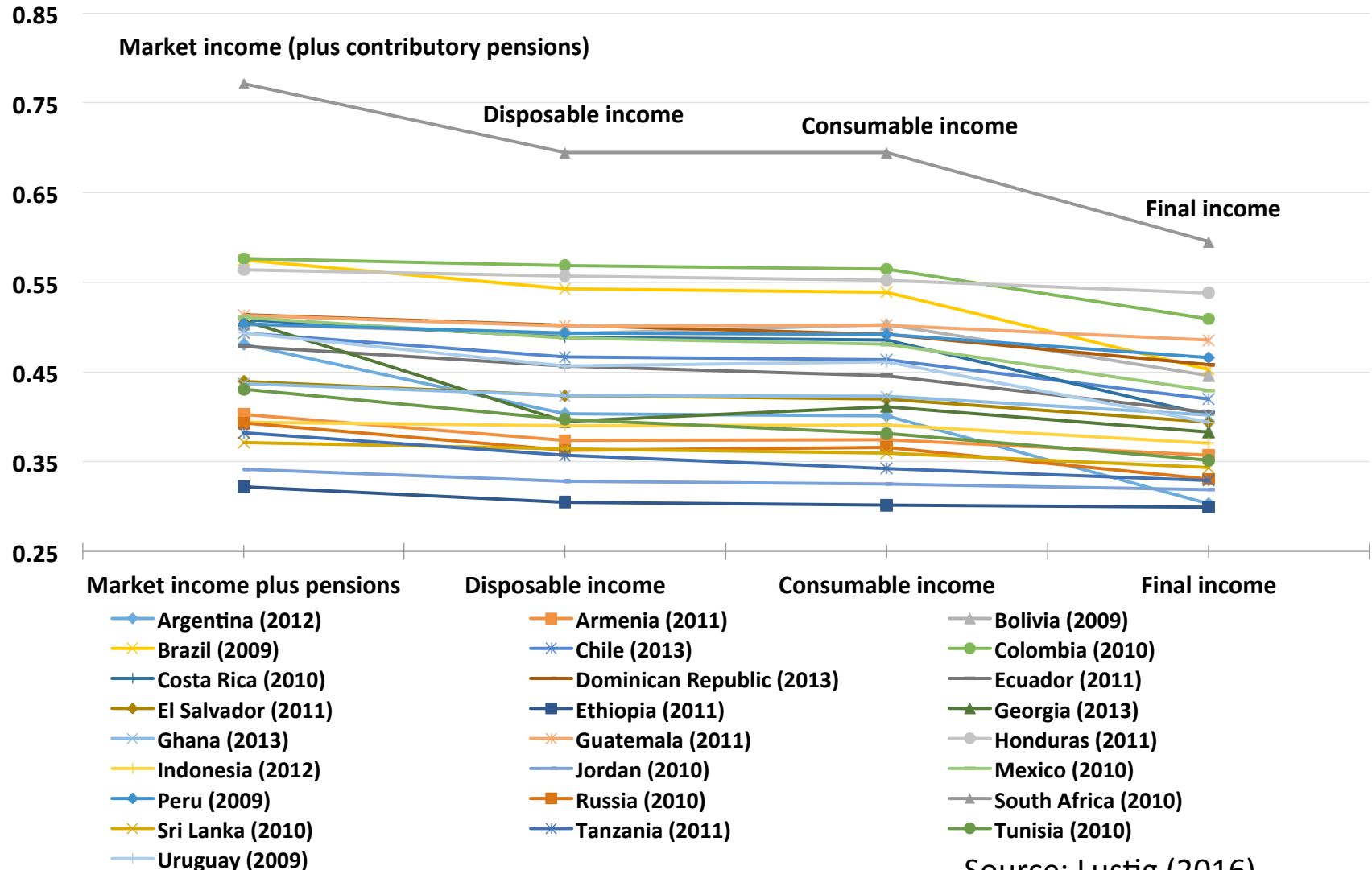
Source: Lustig (2016)

Redistributive effect
(Change in Gini points: market income plus pensions and market income to disposable income, circa 2010)

(ranked by redistributive effect (left hand scale); Gini coefficients right hand scale)

Source: Lustig (2016)

More social spending, more redistribution

Source: Lustig (2016)
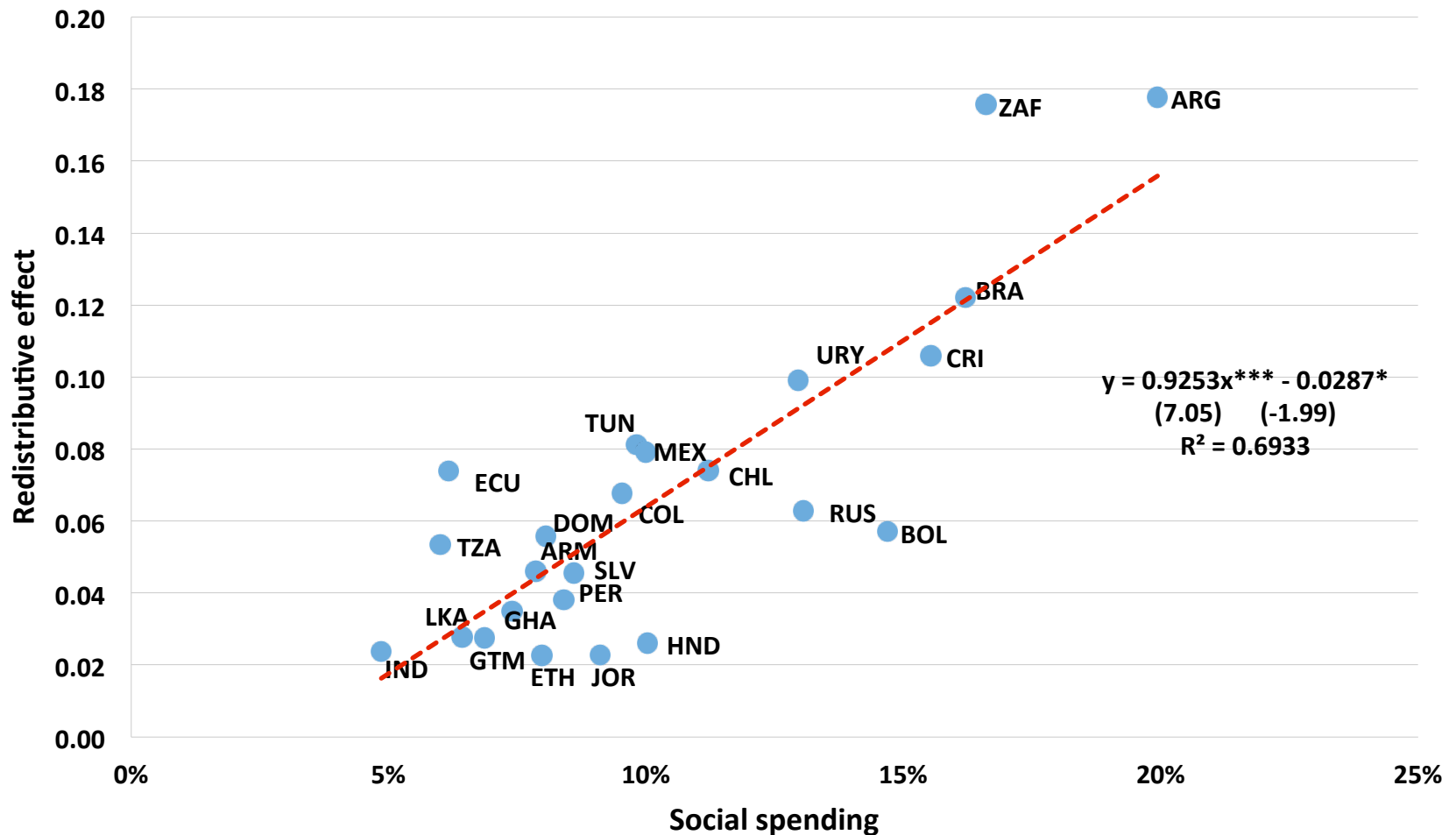
More unequal, more redistribution
Consistent with Meltzer-Richard Median Voter Theorem - No "Robin Hood Paradox"

$$y = 0.0952x^* - 0.0184$$
$$(1.76) \quad (-0.70)$$
$$R^2 = 0.1183$$

Redistributive effect (y-axis)

Gini market income plus pensions (x-axis)

Source: Lustig (2016)

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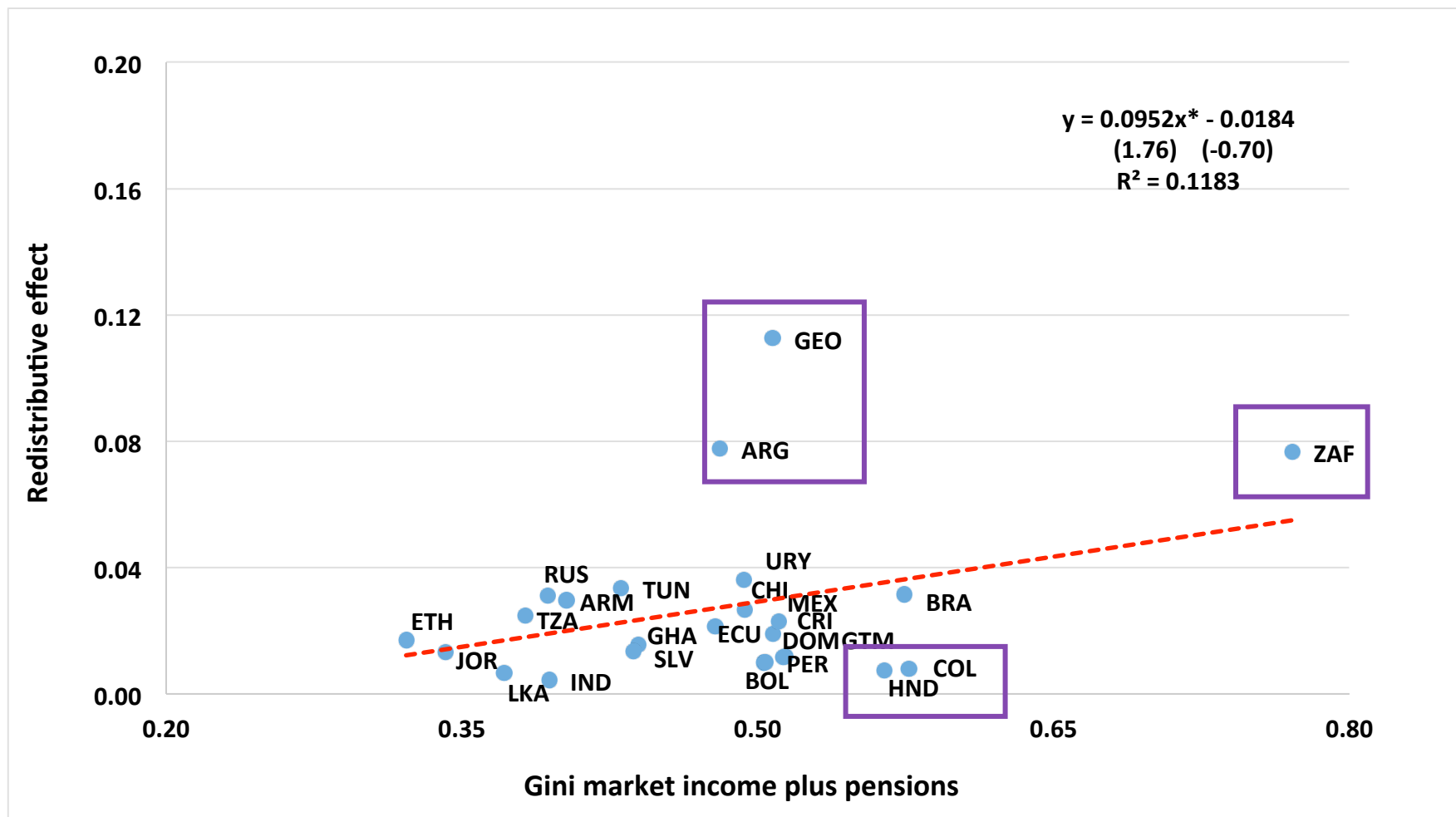
In sum…

- In NO country, inequality increases as a result of taxes, subsidies and social spending

➢Fiscal policy is always equalizing

➢The more unequal, the more fiscal redistribution

Poverty

- Fiscal policy can be equalizing but poverty increasing (in terms of the poor's ability to consume private goods and services):
    - ➢ 1.25/day line: Ethiopia, Ghana, Guatemala, Tanzania
    - ➢ 2.50/day line: Armenia, Bolivia, Ethiopia, Ghana, Guatemala, Honduras, Sri Lanka, Tanzania
    - ➢ 4/day line: all of the above plus Argentina, Brazil, Costa Rica and Tunisia
- This worrisome result stems mainly from consumption taxes

Fiscal Policy and Poverty Reduction

(Change in Headcount Ratio from Market to Consumable Income (Poverty line $1.25 / day 2005 ppp; Contributory Pensions as Deferred Income; in %)
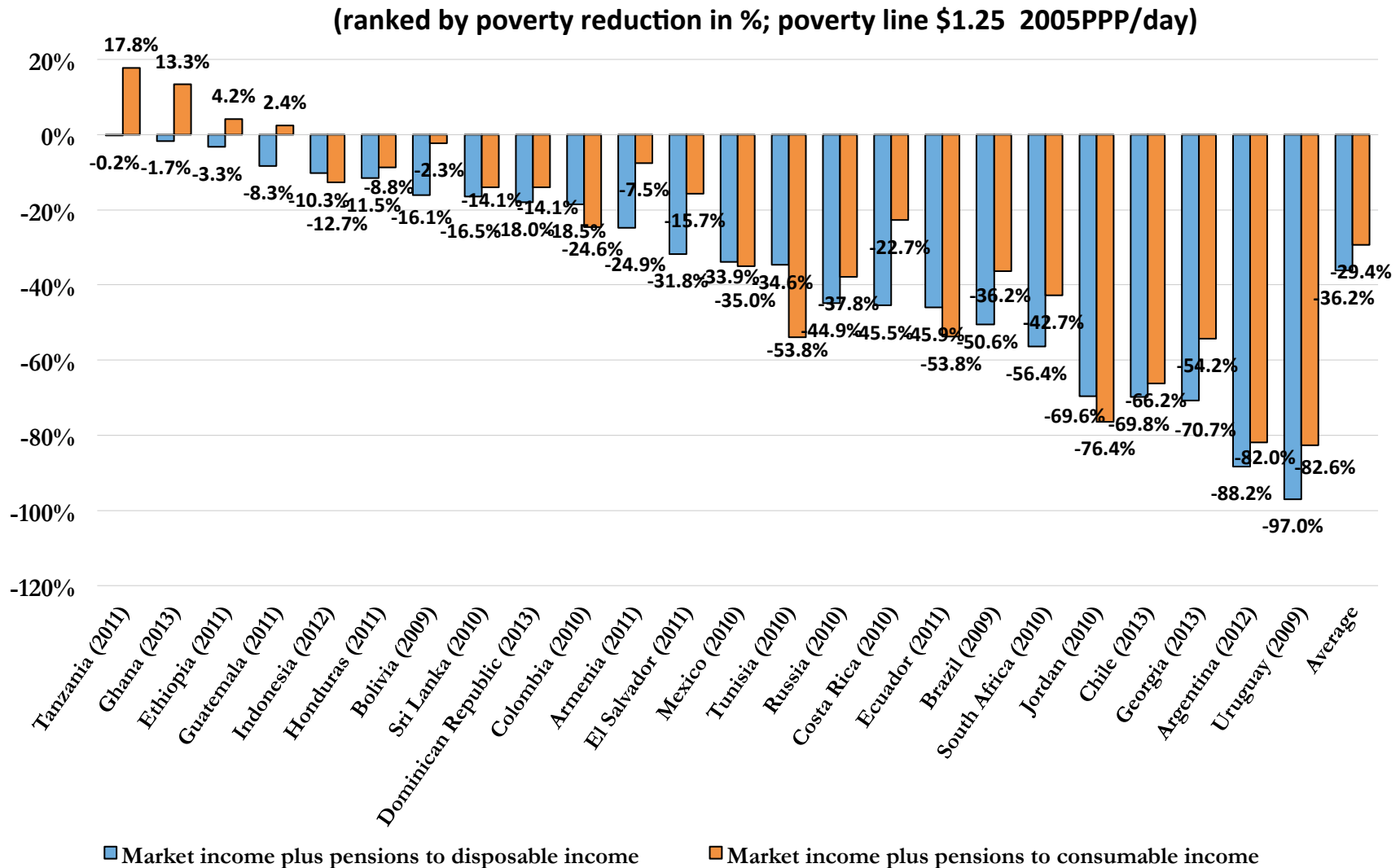
(ranked by poverty reduction in %; poverty line $1.25 2005PPP/day)

Legend:
- ■ Market income plus pensions to disposable income
- ■ Market income plus pensions to consumable income

Source: Lustig (2016)

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Fiscal Policy and Poverty Reduction

(Change in Headcount Ratio from Market to Consumable Income (Poverty line $2.50 / day 2005 ppp; Contributory Pensions as Deferred Income; in %)

(ranked by poverty reduction in %; poverty line $2.50 2005PPP/day)
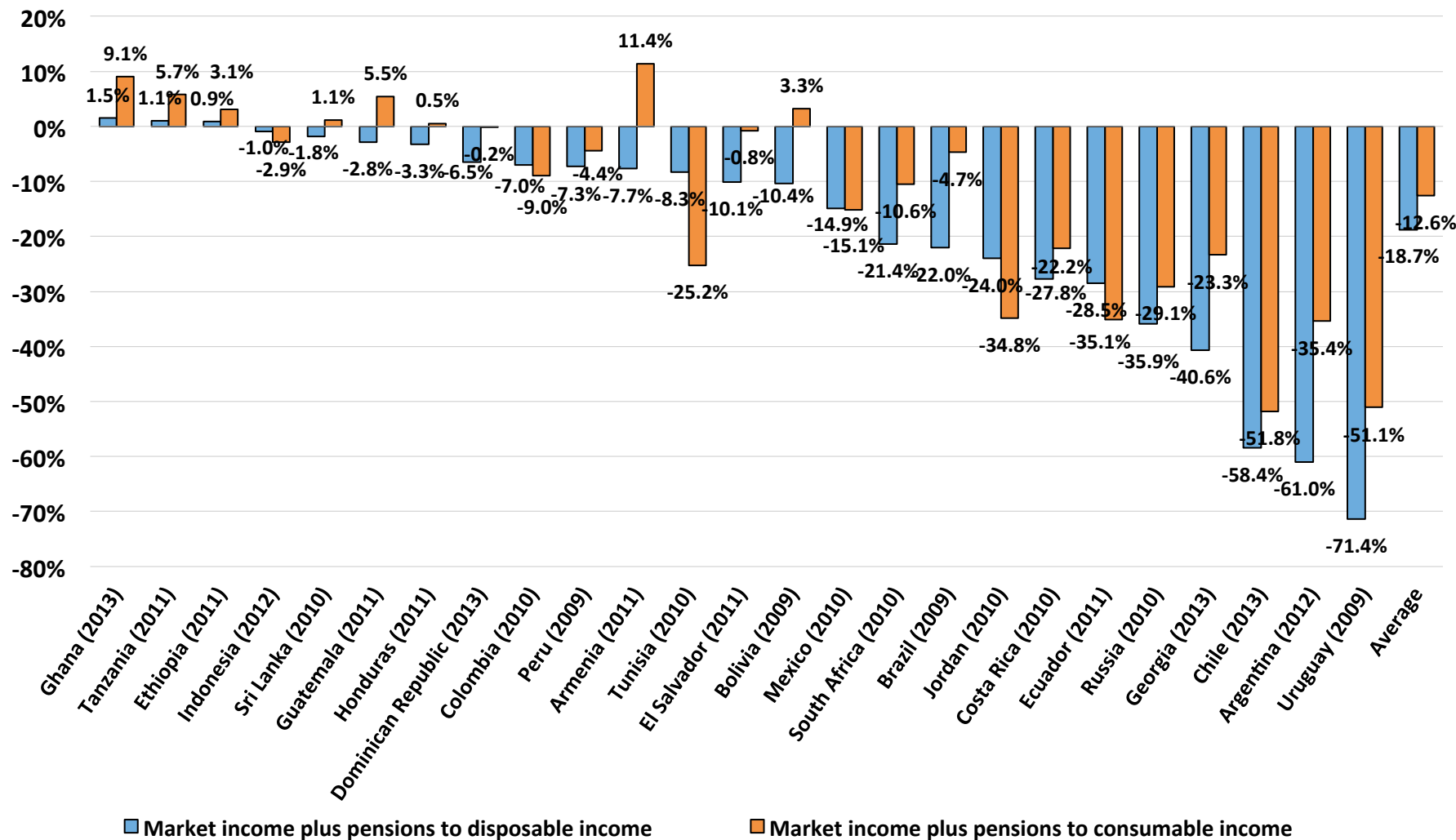
- ■ Market income plus pensions to disposable income
- ■ Market income plus pensions to consumable income

Source: Lustig (2016)

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Fiscal Policy and Poverty Reduction

(Change in Headcount Ratio from Market to Consumable Income (Poverty line $4.00 / day 2005 ppp; Contributory Pensions as Deferred Income; in %)

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Tulane University

(ranked by poverty reduction in %; poverty line $4.00 2005PPP/day)
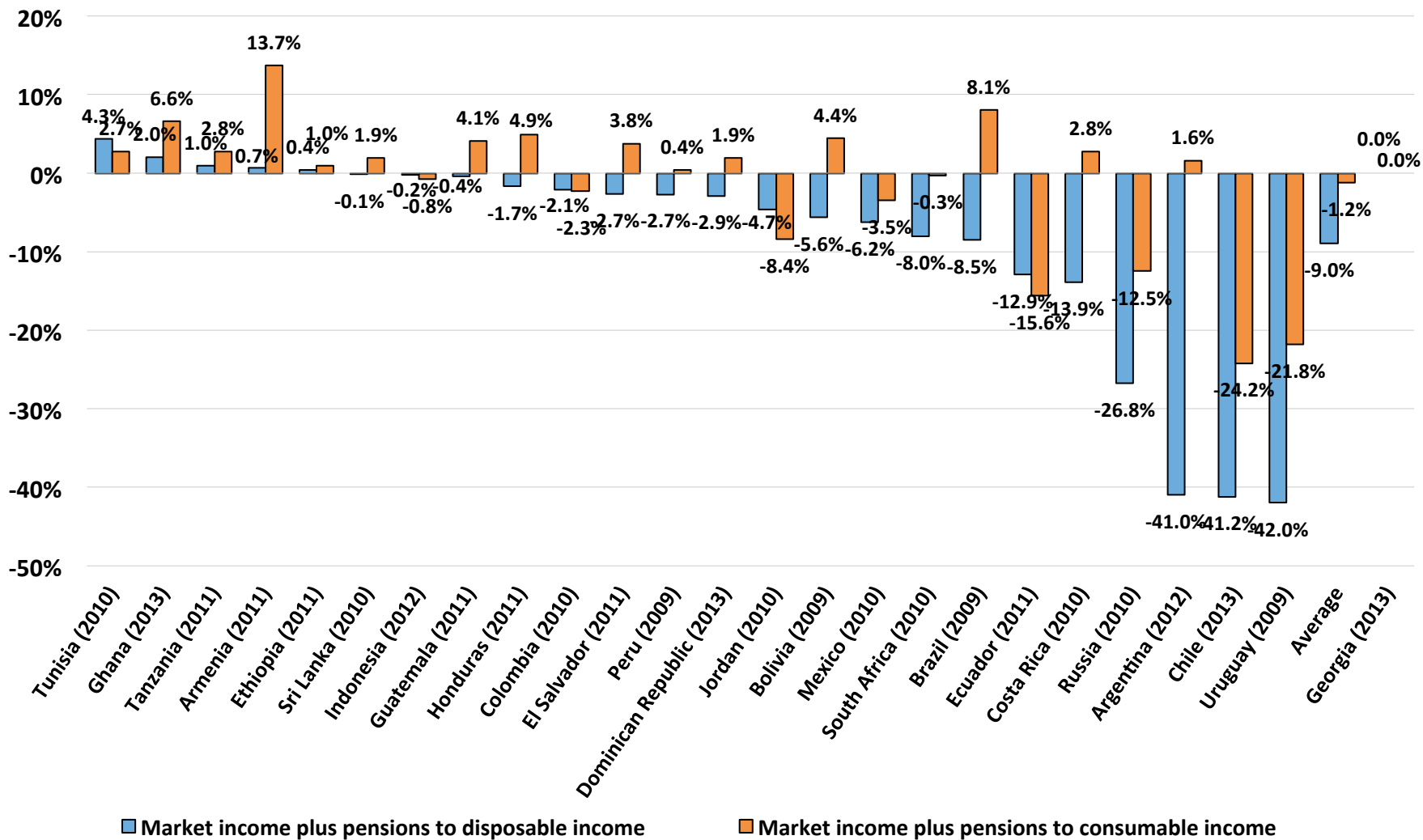
Legend:
- Market income plus pensions to disposable income (blue)
- Market income plus pensions to consumable income (orange)

Source: Lustig (2016)

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Analyzing the impact on traditional poverty indicators can be misleading

➢ Fiscal systems can show a reduction in poverty and yet a substantial share of the poor could have been impoverished by the combined effect of taxes and transfers

Higgins and Lustig (2016)
Can a poverty-reducing and progressive tax and transfer system hurt the poor?
Journal of Development Economics 122, 63-75, 2016

Fiscal Impoverishment and Fiscal Gains to the Poor

Income

Higgins and Lustig. 2016. Can a poverty reducing and progressive tax and transfer system hurt the poor? *Journal of Development Economics* 122, 63-75, 2016

5

— Pre–Fisc
— Post–Fisc

2.5

Population Ordered by Pre–Fisc Income

Fiscal Impoverishment
(Market to Consumable Income)

Country (survey year)	Market income plus pensions Poverty headcount (%)	Change in poverty headcount (p.p.)	Market income plus pensions inequality (Gini)	Reynolds-Smolensky	Change in inequality (▲Gini)	Fiscally impoverished as % of population	Fiscally Impoverished as % of consumable income poor
Panel A: Upper-middle income countries, using a poverty line of $2.5 2005 PPP per day							
Brazil (2009)	16.8	-0.8	57.5	4.6	-3.5	5.6	34.9
Chile (2013)	2.8	-1.4	49.4	3.2	-3.0	0.3	19.2
Ecuador (2011)	10.8	-3.8	47.8	3.5	-3.3	0.2	3.2
Mexico (2012)	13.3	-1.2	54.4	3.8	-2.5	4.0	32.7
Peru (2011)	13.8	-0.2	45.9	0.9	-0.8	3.2	23.8
Russia (2010)	4.3	-1.3	39.7	3.9	-2.6	1.1	34.4
South Africa (2010)	49.3	-5.2	77.1	8.3	-7.7	5.9	13.3
Tunisia (2010)	7.8	-0.1	44.7	8.0	-6.9	3.0	38.5
Brazil (2009)	16.8	-0.8	57.5	4.6	-3.5	5.6	34.9
Chile (2013)	2.8	-1.4	49.4	3.2	-3.0	0.3	19.2

Higgins and Lustig (2016)

Fiscal Impoverishment
(Market to Consumable Income)

Country (survey year)	Market income plus pensions Poverty headcount (%)	Change in poverty headcount (p.p.)	Market income plus pensions inequality (Gini)	Reynolds-Smolensky	Change in inequality (▲Gini)	Fiscally impoverished as % of population	Fiscally Impoverished as % of consumable income poor
Panel B: Lower-middle income countries, using a poverty line of $1.25 2005 PPP per day							
Armenia (2011)	21.4	-9.6	47.4	12.9	-9.3	6.2	52.3
Bolivia (2009)	10.9	-0.5	50.3	0.6	-0.3	6.6	63.2
Dominican Republic (2013)	6.8	-0.9	50.2	2.2	-2.2	1.0	16.3
El Salvador (2011)	4.3	-0.7	44.0	2.2	-2.1	1.0	27.0
Ethiopia (2011)	31.9	2.3	32.2	2.3	-2.0	28.5	83.2
Ghana (2013)	6.0	0.7	43.7	1.6	-1.4	5.1	76.6
Guatemala (2010)	12.0	-0.8	49.0	1.4	-1.2	7.0	62.2
Indonesia (2012)	12.0	-1.5	39.8	1.1	-0.8	4.1	39.2
Sri Lanka (2010)	5.0	-0.7	37.1	1.3	-1.1	1.6	36.4
Tanzania (2011)	43.7	7.9	38.2	4.1	-3.8	50.9	98.6

Higgins and Lustig (2016)

- Fifteen of the eighteen countries with a <u>reduction</u> in poverty and inequality due to the tax and transfer system experienced various degrees of fiscal impoverishment.

- In ten countries—Armenia, Bolivia, Brazil, El Salvador, Guatemala, Indonesia, Mexico, Russia, Sri Lanka, and Tunisia—between one-quarter and two-thirds of the post-fisc poor lost income to the fiscal system.

- In the three countries where the headcount ratio rose (Ethiopia, Ghana and Tanzania), the proportion of the poor who were impoverished by the fiscal system is staggering (above 75%).

- In Armenia, Ethiopia, Indonesia, Tunisia, and Russia, between 25% and 50% are still fiscally impoverished when the monetized value of education and health services are included as transfers

Lustig. 2016. "The SDG's, Domestic Resource Mobilization and the Poor," background paper for the Expert Group Meeting: "Strategies for eradicating poverty to achieve sustainable development for all," Background paper for World Development Report 2017 *Governance and the Law*, June

- Extreme care must be taken with emphasizing domestic resource mobilization to achieve SDGs
- Must assess the impact on the poor of tax and subsidy reforms, otherwise one may be taking away from the poor more than is transferred to them
- Impact on the poor of increasing taxes requires the use of adequate indicators; conventional measures of inequality and poverty can be *awfully* misleading
- Fiscal Impoverishment Index fulfills all the requirements to obtain an accurate assessment of the impact of fiscal changes on the poor

Lustig. 2016. "The SDG's, Domestic Resource Mobilization and the Poor," background paper for the Expert Group Meeting: "Strategies for eradicating poverty to achieve sustainable development for all," Background paper for World Development Report 2017 *Governance and the Law*, June

Main messages

1. Analyzing the tax side without the spending side, or vice versa, can be misleading

   ➢ Taxes can be unequalizing but spending so equalizing that the unequalizing effect of taxes is more than compensated

   ➢ Taxes can be regressive but when combined with transfers make the system more equalizing than without the regressive taxes

   ➢ Transfers can be equalizing but when combined with taxes, post-fisc poverty can be higher

Main messages

2. Analyzing the impact on inequality only can be misleading

   ➤Fiscal systems can be equalizing but poverty increasing

Main messages

3. Analyzing the impact on traditional poverty indicators can be misleading

   ➤ Fiscal systems can show a reduction in poverty and yet a substantial share of the poor could have been impoverished by the combined effect of taxes and transfers

How pro-poor is spending on education and health

Classification

- Pro-poor and equalizing, per capita spending declines with income

- Neutral in absolute terms and equalizing, same per capita for all

- Equalizing but not pro-poor, per capita spending as a share of market income declines with income

- Unequalizing, per capita spending as a share of market income increases with income

Main results

Education spending on primary and secondary schooling per person tends to be pro-poor or neutral in absolute terms…

… with the exception of Ethiopia where, although equalizing, per capita spending on secondary education increases with income

> ➤ Are middle-classes opting out in middle and high income countries?

Tertiary education spending is not pro-poor but it is equalizing (surprised?) except for Ethiopia, Ghana, Guatemala and Tanzania, where it is unequalizing

Main results

Health spending per person tends to be pro-poor or neutral in absolute terms…

….except for El Salvador, Ethiopia, Guatemala, Indonesia, Peru and Tanzania where although not unequalizing per capita spending increases with income….

…and for Jordan, where government spending on health is unequalizing.

Source: Lustig (2016)

In conclusion…

- Fiscal systems are always equalizing but can often reduce the purchasing power of the poor
  - ➤ Warning: unintended consequence of the domestic resource mobilization agenda can be making the poor worse off
- Spending on education and health is often pro-poor and almost universally equalizing
  - ➤ Warning: is this favorable result because middle-classes and the rich are opting out?
- Reassuring results
  - ➤ Redistributive effect increases with social spending
  - ➤ Social spending as a share of GDP increases with inequality
  - ➤ The more unequal, the more redistribution

PARTNERSHIPS & COLLABORATION

CEQ Institute can offer

Preparation of CEQ Assessments in full or components

Quality control of CEQ Assessments

Training workshops

Advisory services for staff and governments

=> Cost-sharing arrangements vary depending on the contributions of partnering organization

CEQ Institute can offer

Detailed results on CEQ Assessments

-The Master Workbook (MWB) of results by country for countries in which the partnering organization has not participated

> => For WB, the number is close to 30 countries: Argentina, Bolivia, Brazil, China, Colombia, Costa Rica, Ecuador, Egypt, El Salvador (update), Ghana, Guatemala, Honduras, India, Iran, Ivory Coast, Mexico, Mozambique, Nicaragua, Panama, Peru, Tanzania, Togo, Tunisia, Uganda, Uruguay, Venezuela, and Zambia

-Cross-country Masterdata which serves to compare results with peers and others (CEQ Masterdata currently has results for 28 countries)

> =>In exchange, the partnering organization contributes to the CEQ Data Center by sharing MWB on countries in which CEQ Institute did not participate

Thank you!