DG DEVCO Staff Seminar on Social Protection
- from strategies to concrete approaches -

26 - 30 September 2016, Brussels

SESSION 6
Issues in Fiscal Incidence and Redistribution (Part A)

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Outline

- Summary of Fiscal Redistribution, Inequality, & Poverty in Low- and Middle-Income Countries

- How pro-poor is spending on education and health

- 4 key questions

Commitment to Equity 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 $ 5.5 million for 2014-2020

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: 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 Stata commands that automates the production/placement of results and inputs for 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**

- Empirical results for 26 countries based on fiscal incidence studies from the CEQ Institute (circa 2010-2014)

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

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.

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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).

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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).

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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).

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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.
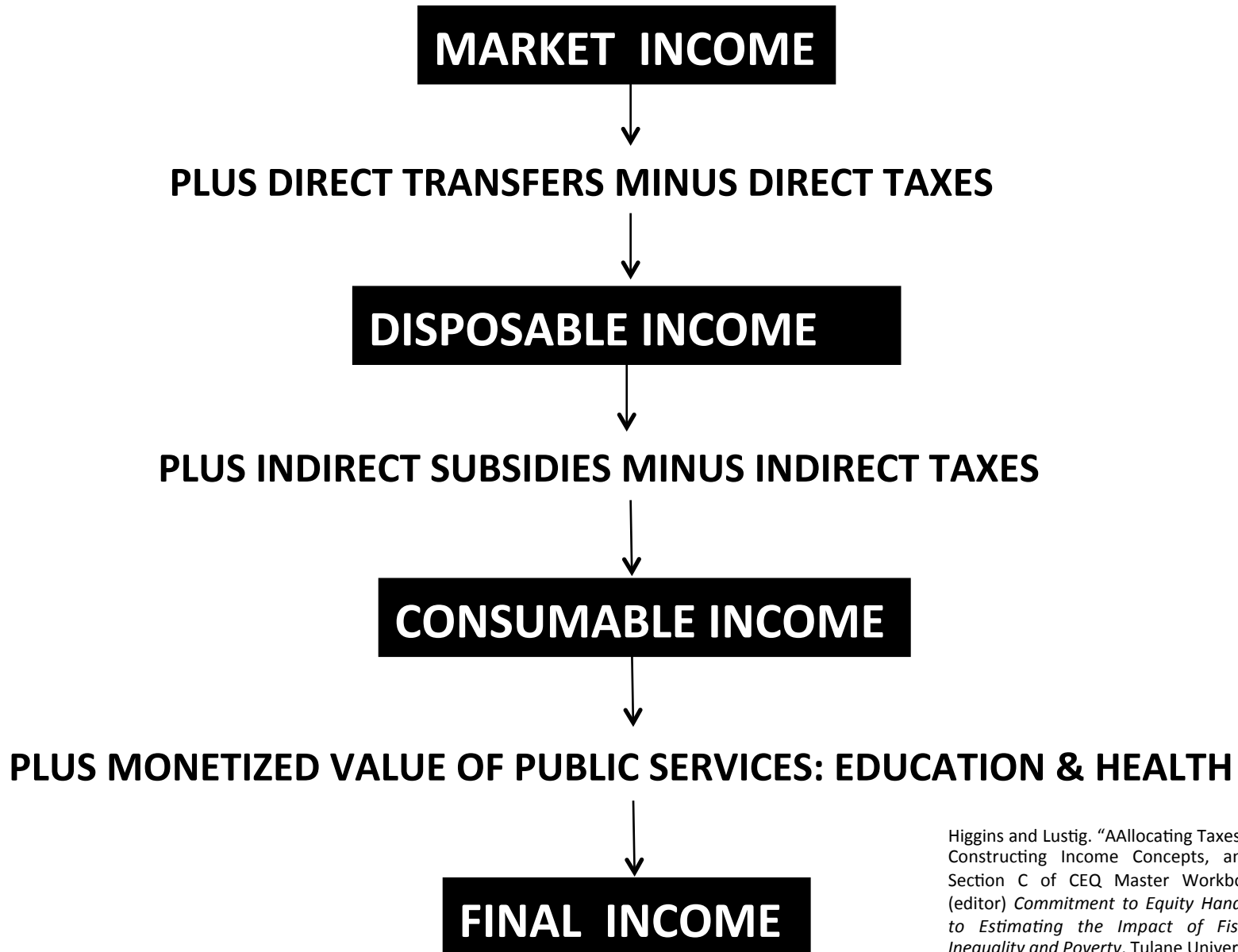
Household surveys by country, year

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.

Summary of

FISCAL REDISTRIBUTION, INEQUALITY, & POVERTY

in Low- and Middle-Income Countries

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.
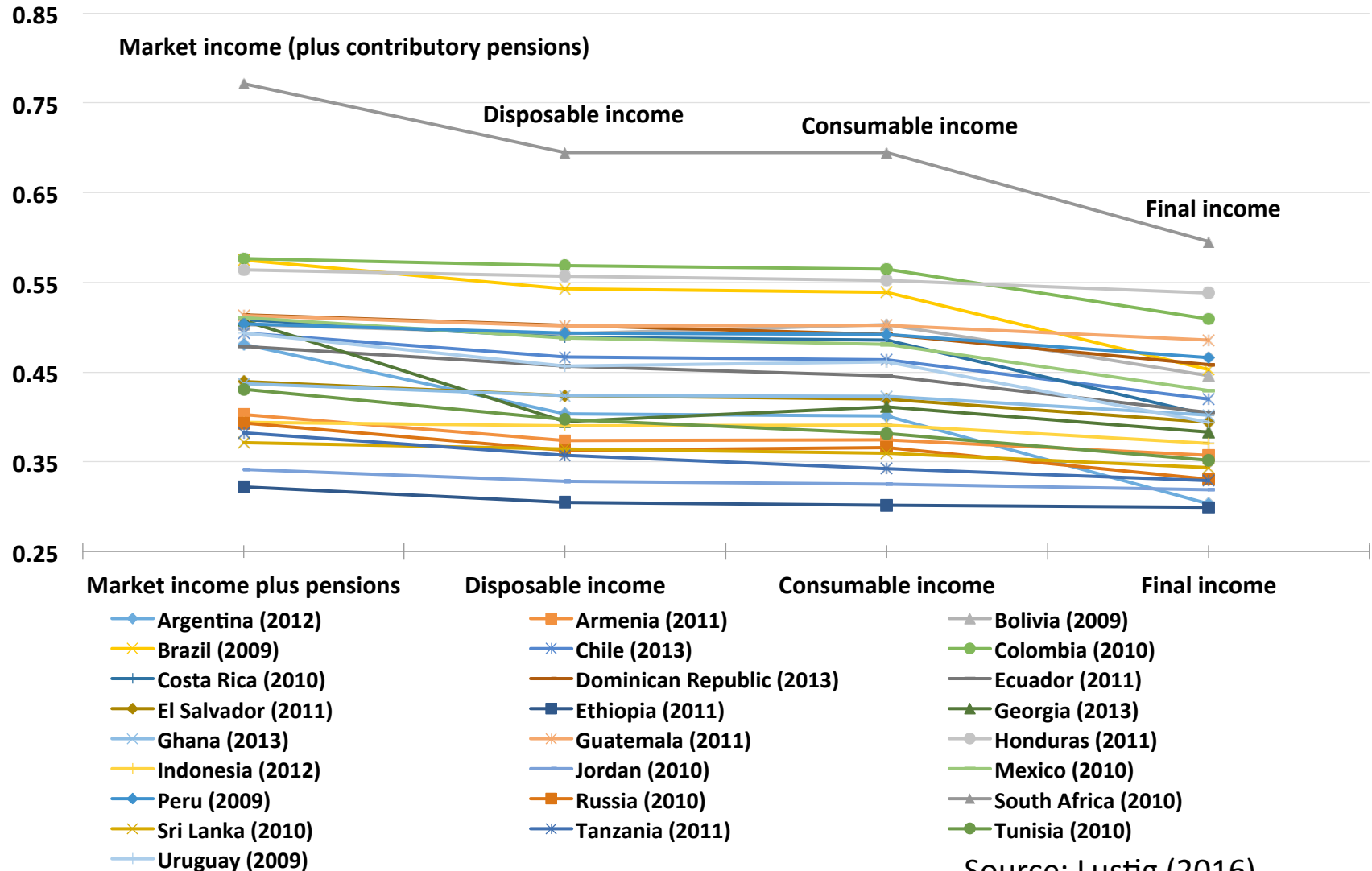
Fiscal Policy and Inequality –
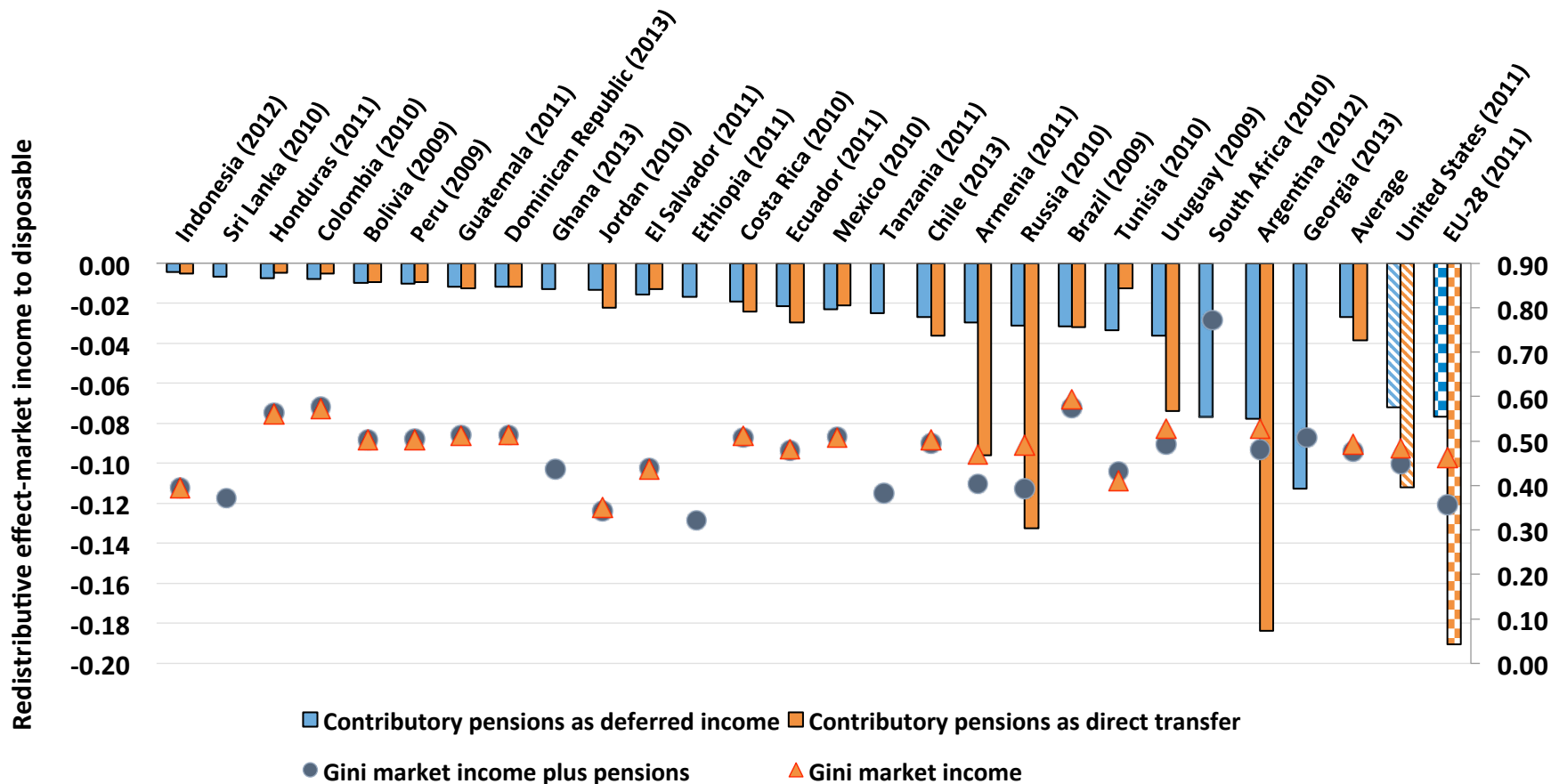# Contributory pensions as deferred income
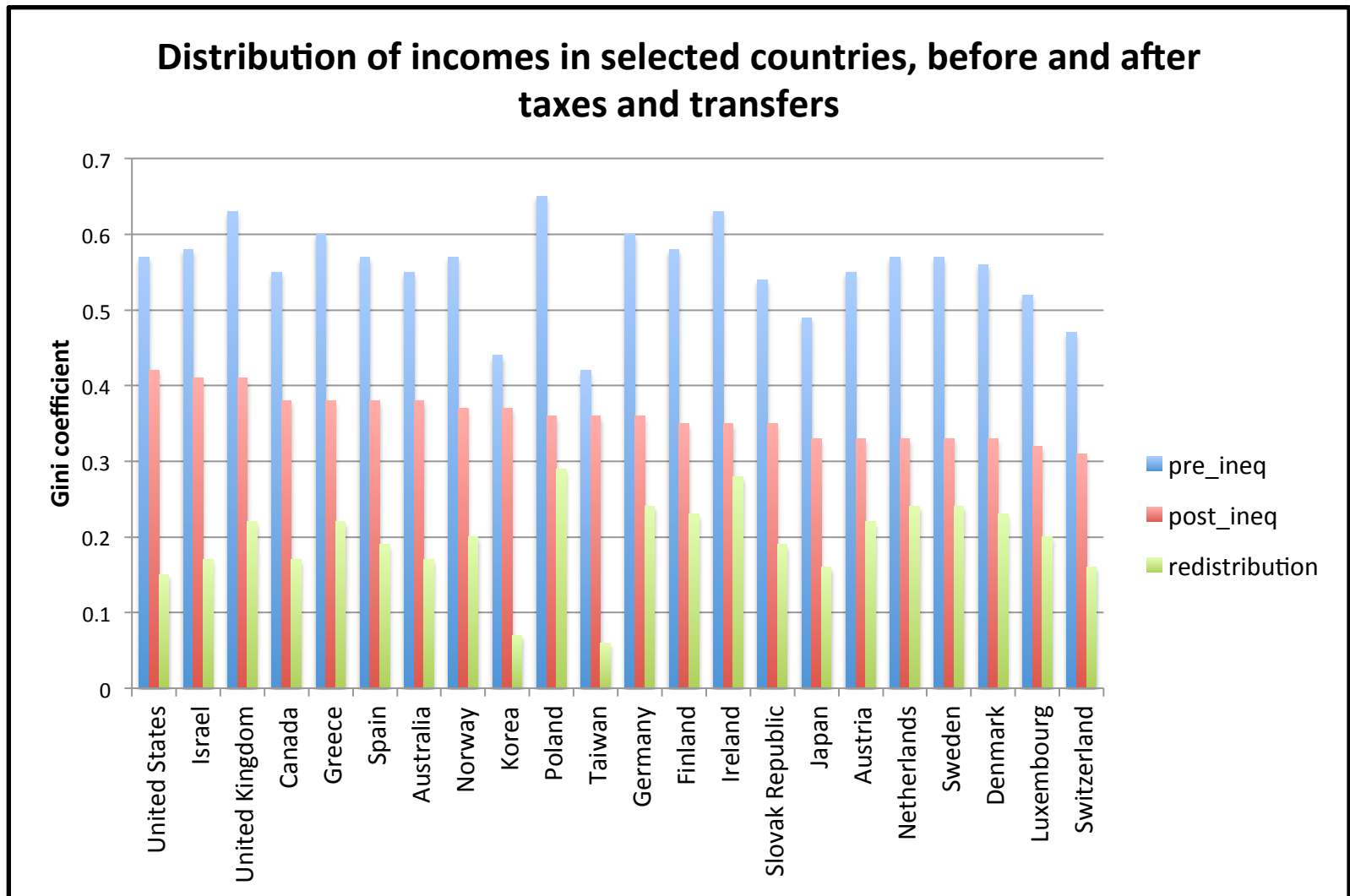

Source: Lustig (2016)

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

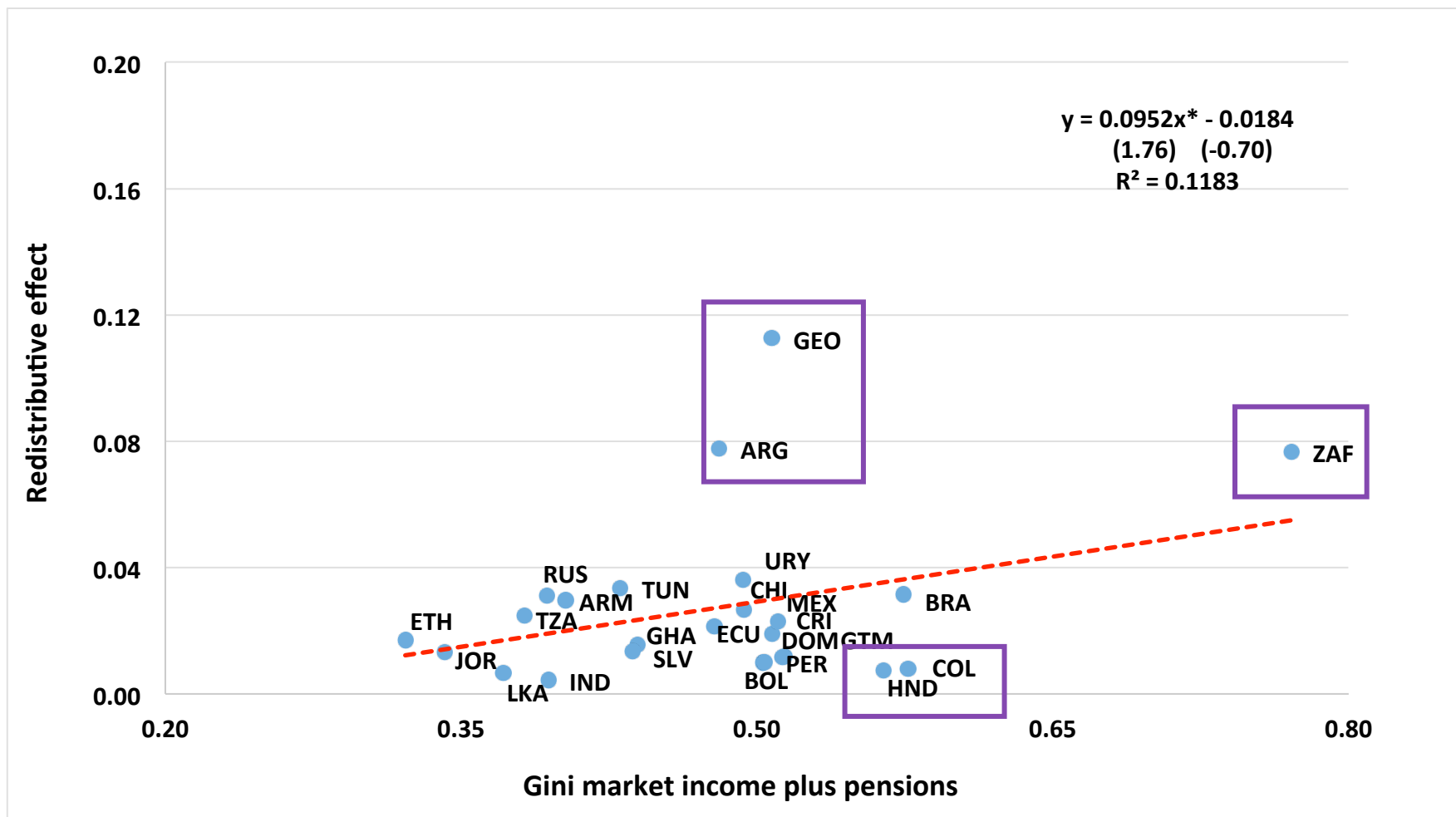**(ranked by redistributive effect (left hand scale); Gini coefficients right hand scale)**

Source: Lustig (2016)

Rich countries

Distribution of incomes in selected countries, before and after taxes and transfers

More social spending, more redistribution

Source: Lustig (2016)
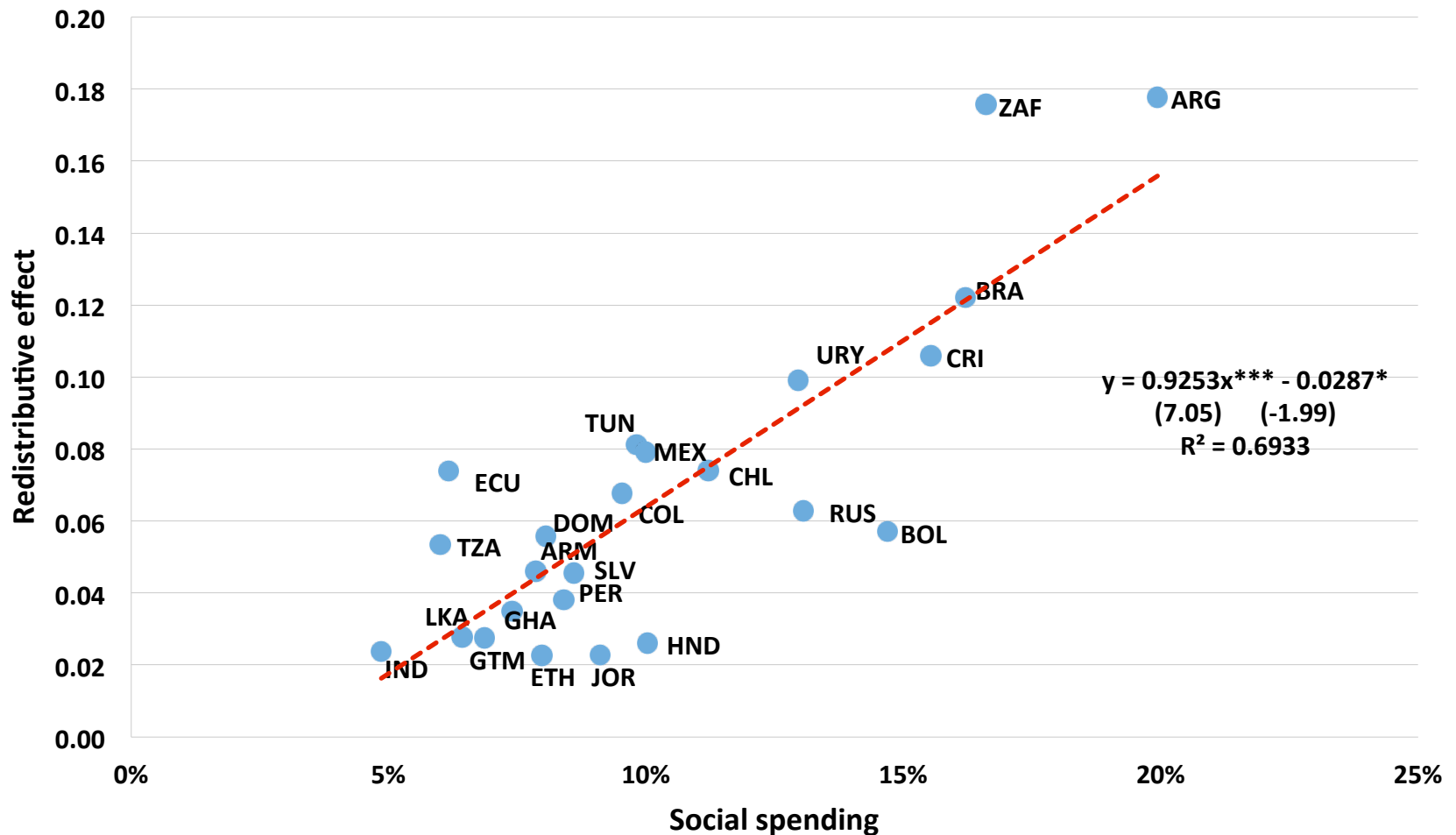
More unequal, more redistribution

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

Redistributive effect (y-axis): 0.00, 0.04, 0.08, 0.12, 0.16, 0.20

Gini market income plus pensions (x-axis): 0.20, 0.35, 0.50, 0.65, 0.80

Data points: GEO, ARG, ZAF, URY, RUS, CHI, TUN, ARM, MEX, ETH, TZA, CRI, BRA, GHA, ECU, DOM, GTM, JOR, SLV, PER, LKA, IND, BOL, HND, COL
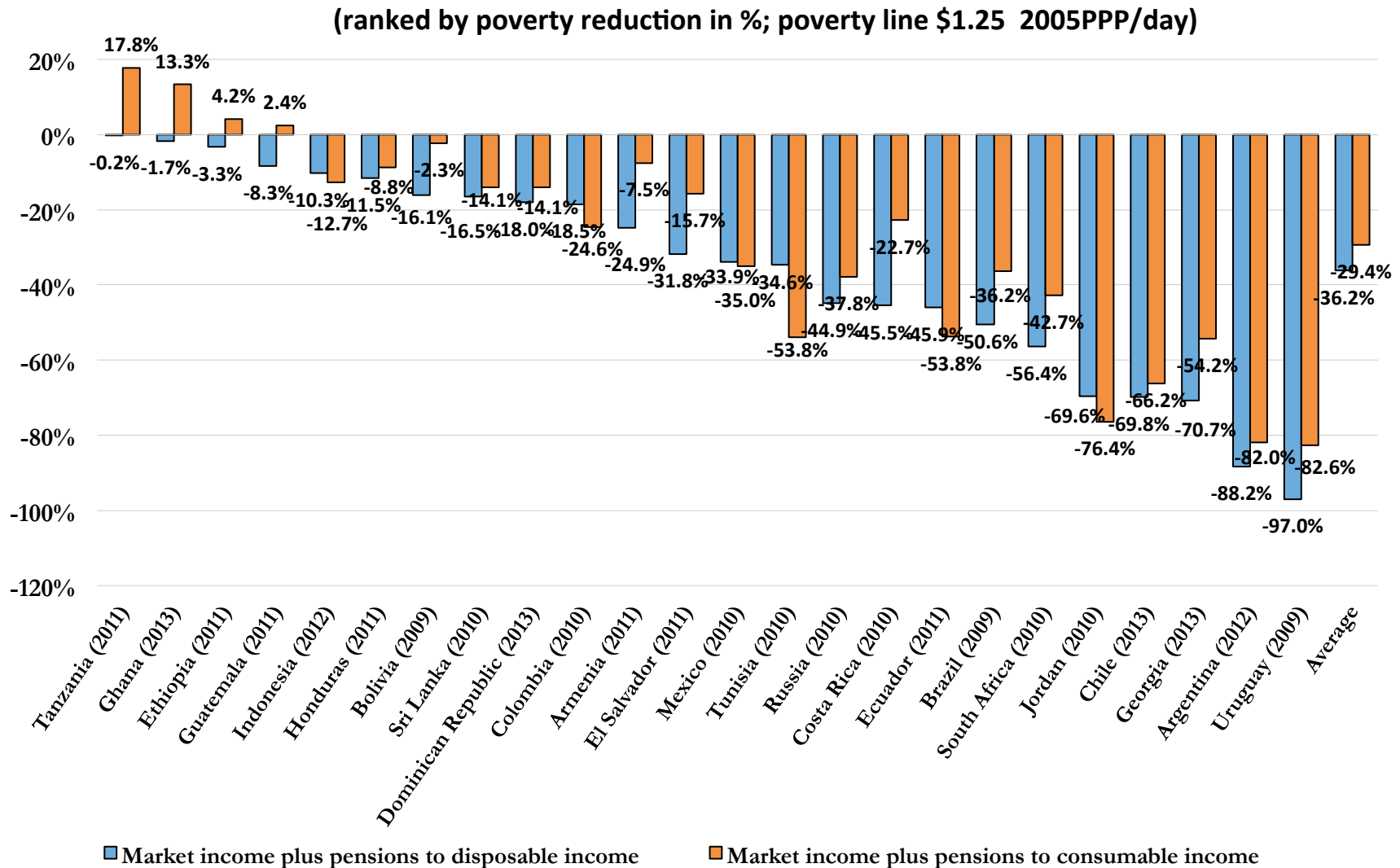
In sum...

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

➤ Fiscal policy is always equalizing

➤ The more unequal, the more fiscal redistribution

CEQ Assessment Results
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)

■ 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)

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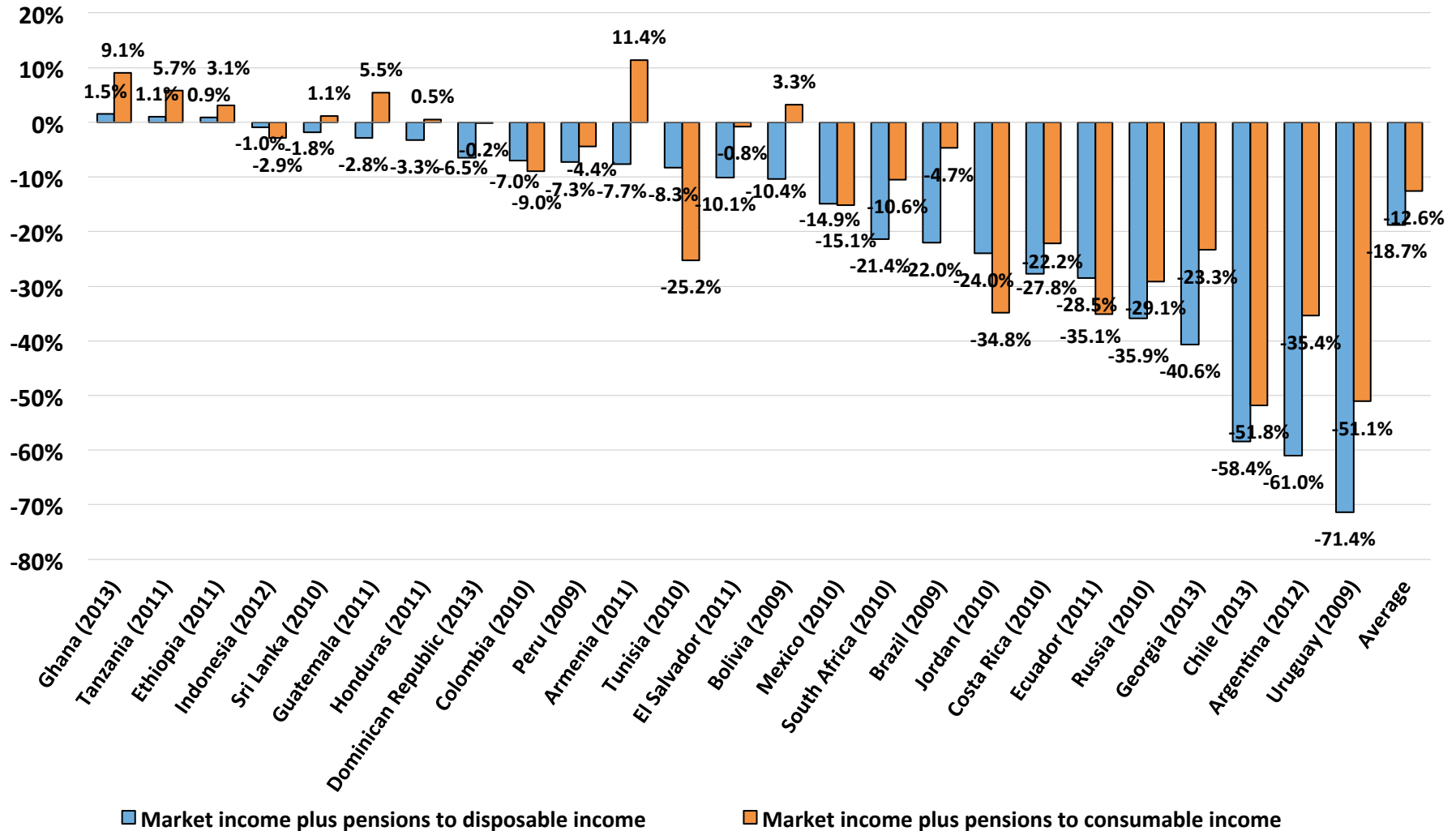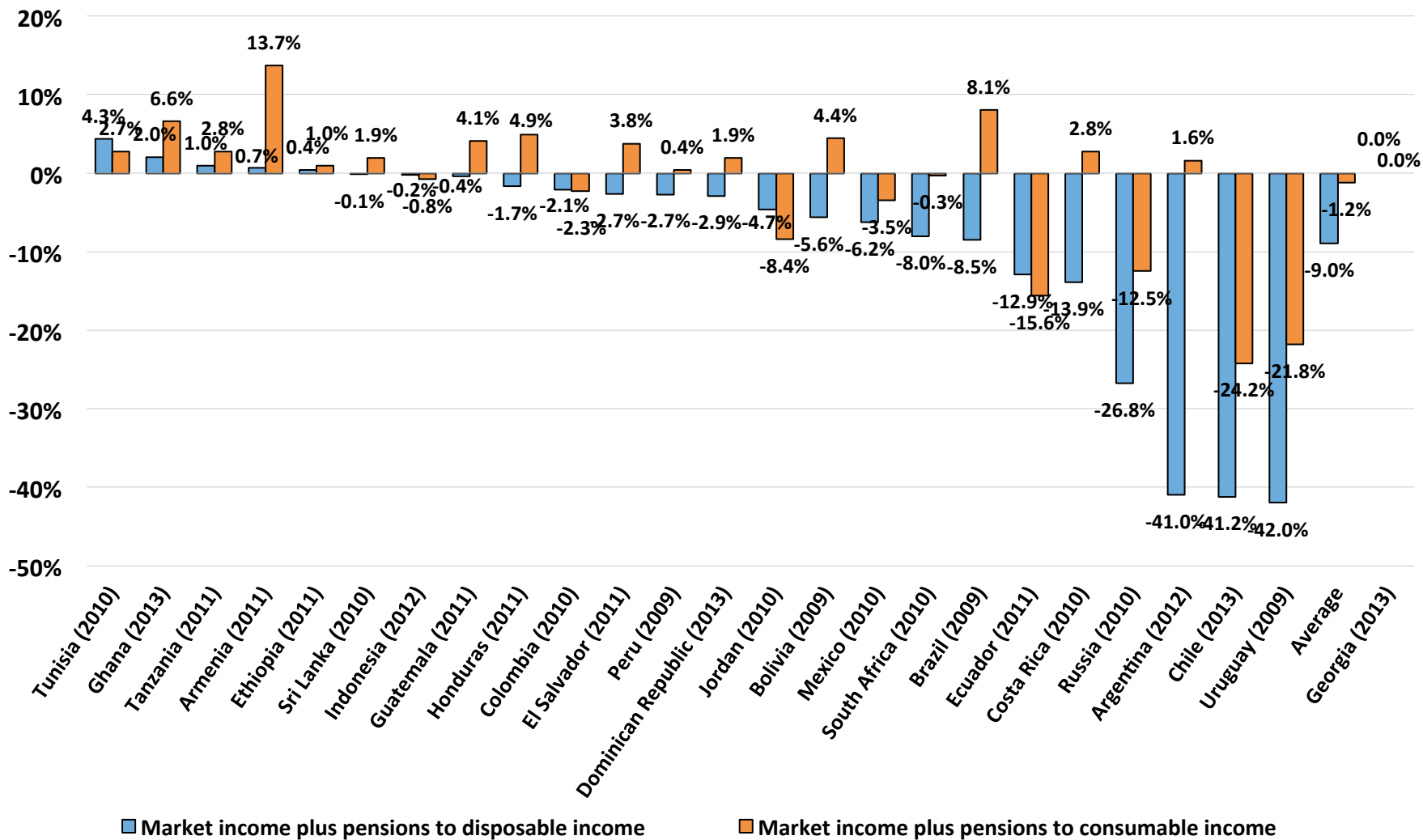- ■ Market income plus pensions to consumable income

Source: Lustig (2016)

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 %)

(ranked by poverty reduction in %; poverty line $4.00 2005PPP/day)

■ **Market income plus pensions to disposable income**   ■ **Market income plus pensions to consumable income**

Source: Lustig (2016)

28

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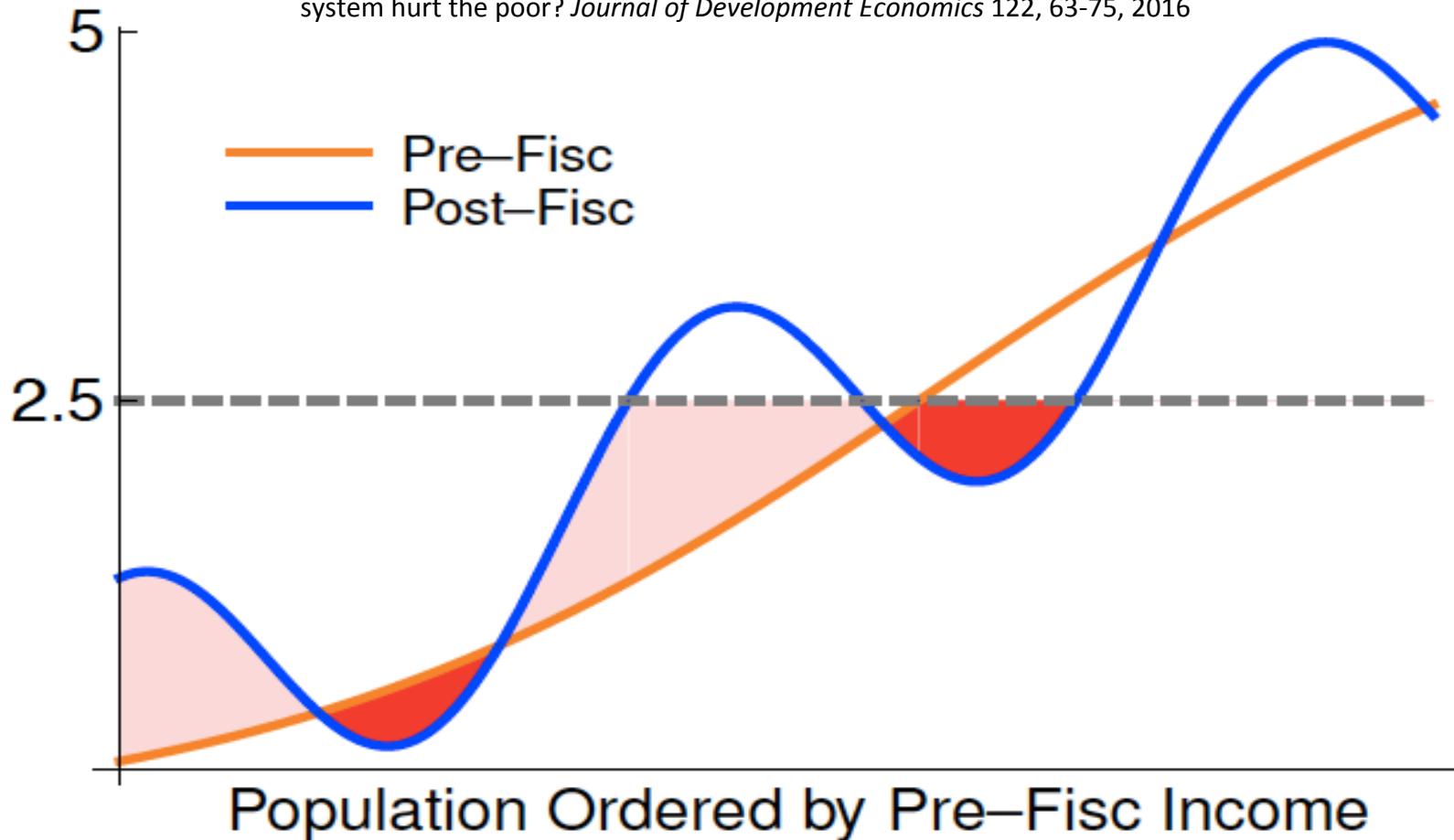
Higgins and Lustig (2016)
Can a poverty-reducing and progressive tax and transfer system hurt the poor?
Journal of Development Economics 122, 63-75, 2016

Fiscal Impoverishment and Fiscal Gains to the Poor

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

- 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

Our toy example from earlier today...
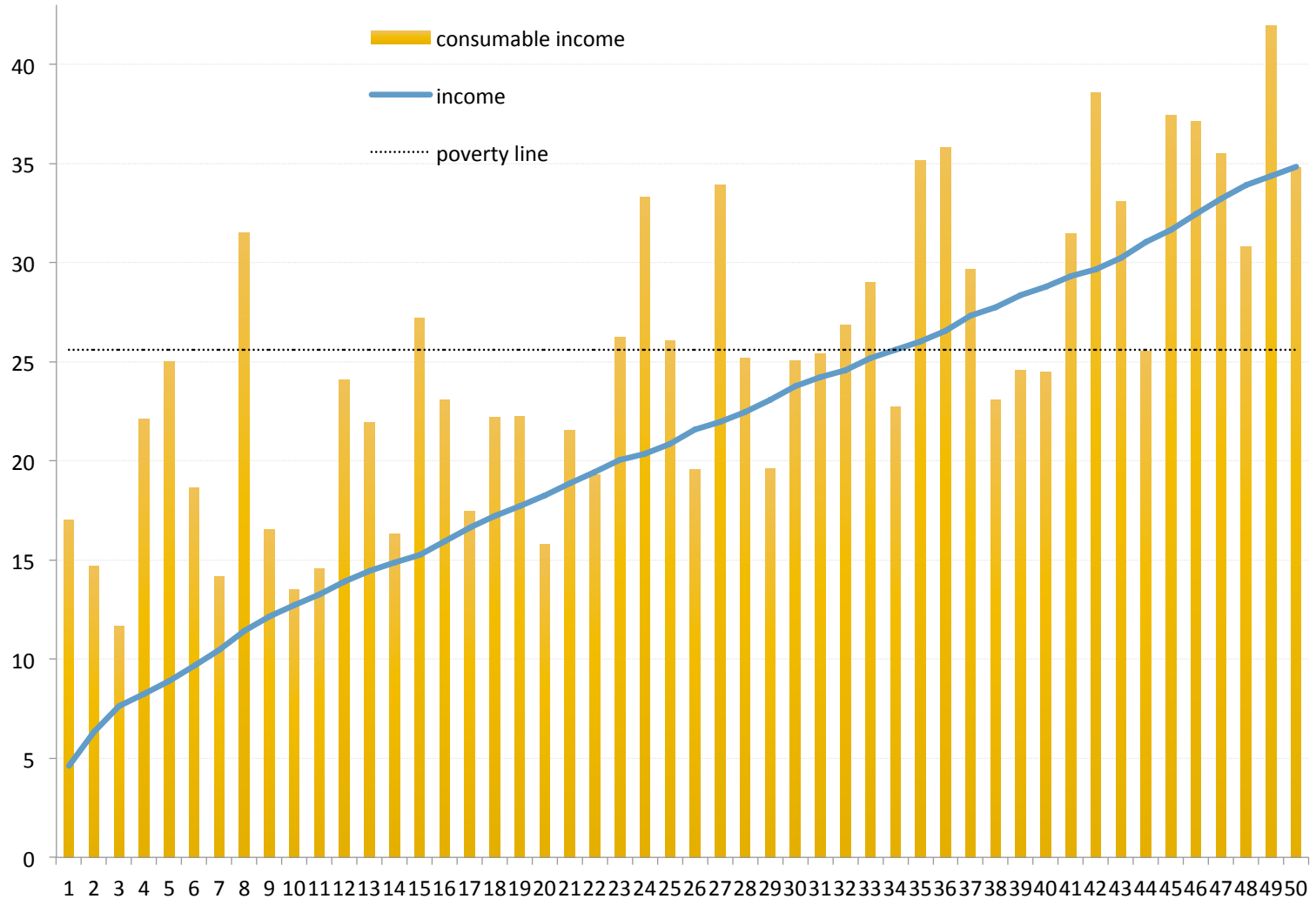
➢Extreme care must be taken with emphasizing domestic resource mobilization to achieve SDGs

➢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

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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

Source: Lustig (2016)   39

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

Four Key Questions

Fiscal Policy and Inequality
Four Key Questions

- Does the net fiscal system decrease inequality?

- Is a particular tax or transfer equalizing or unequalizing?

- What is the contribution of a particular tax or transfer (or any combination of them) to the change in inequality?

- What is the inequality impact if one increases the size of a tax (transfer) or its progressivity?

Fiscal Policy and Inequality
Four Key Questions

- **Does the net fiscal system decrease inequality?**

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Does the net fiscal system decrease inequality?

Let's define the Redistributive Effect of the net fiscal system as

$$RE_N = G_x - G_N$$

Where G_x and G_N are the pre-tax-pre-transfer Gini coefficient and post-tax-post-transfer Gini, respectively

Does the net fiscal system decrease inequality?

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Does the net fiscal system decrease inequality?

For the net fiscal system to be equalizing:

$$RE_N = \frac{(1-g)RE_t + (1+b)RE_B}{1-g+b} > 0$$

Condition 1:

$$\rightarrow RE_t > -\frac{(1+b)}{(1-g)}RE_B$$

Does the net fiscal system decrease inequality?

		Transfer		
		Regressive $\rho_B^K < 0$	**Neutral** $\rho_B^K = 0$	**Progressive** $\rho_B^K > 0$
Tax	**Regressive** $\Pi_T^K < 0$	Always Unequalizing	Always Unequalizing	Equalizing if and only if Condition 1 holds
	Neutral $\Pi_T^K = 0$	Always Unequalizing	No Change in Equality	Always Equalizing
	Progressive $\Pi_T^K > 0$	Equalizing if and only if Condition 1 holds	Always Equalizing	Always Equalizing

Condition 1:

$$\rightarrow RE_t > -\frac{(1+b)}{(1-g)} RE_B$$

Does the net fiscal system decrease inequality?

- It's complicated:

  - ➢ A fiscal system with a regressive tax can be equalizing as long as transfers are progressive and large (relatively), and…

  - ➢ …A fiscal system with a regressive tax that collects more revenues than a less regressive one may be more equalizing

Fiscal Policy and Inequality
Four Key Questions

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Is a particular tax or transfer equalizing?

■ If there is a tax **and** a transfer, then…

➢ …A regressive tax can be equalizing in the sense that the reduction in inequality can be larger with the tax than without it

Lambert's Conundrum
Path Dependency

- If a tax is regressive vis-à-vis the original income but progressive with respect to the less unequally distributed post-transfer income

➤ Regressive taxes *can* exert an equalizing effect over an above the effect of progressive transfers

➤ Note that institutional path dependency is not the same as mathematical path dependency

Equalizing Regressive Taxes Exist in Real Life

- The US and the UK had regressive equalizing taxes in the past (O'Higgins & Ruggles, 1981 and Ruggles & O'Higgins, 1981)

- Chile's 1996 fiscal system had equalizing regressive taxes (Engel et al., 1999)
  - Redistributive Effect of Net Fiscal System (taxes and transfers together = 0.0583 (decline in Gini points)
  - Redistributive Effect of System with Taxes only = - 0.0076
  - Redistributive Effect of System with Transfers but without Taxes = 0.0574

- ➢Note that 0.0583 > 0.0574

- CEQs for Chile 2013 and South Africa 2010 also show that regressive consumption taxes are equalizing

Path Dependency Underscores the Importance of the Analysis Being Comprehensive

■ Obvious reason
  • To capture the full effect of the net fiscal system

■ More subtle but fundamental reason

  ➢ Assessing the progressivity of a tax or a transfer in isolation can give the wrong answer to the question: Is the tax or the transfer equalizing?

  ➢ Think of the example of Chile and South Africa just shown above

Fiscal Policy and Inequality
Four Key Questions

- Does the net fiscal system decrease inequality?

- Is a particular tax or transfer equalizing or unequalizing?

- **What is the contribution of a particular tax or transfer (or any combination of them) to the change in inequality?**

- What is the inequality impact if one increases the size of a tax (transfer) or its progressivity?

What is the contribution of a particular tax or transfer to the change in inequality?

- Sequential method
  - May give the wrong answer to the "without vs. with comparison" because it ignores path dependency

➢ **Marginal contribution method (same for poverty)**
  - Gives correct answer to the "without vs. with comparison" but does not fulfill the principle of aggregation: i.e., the sum of the marginal contributions will not equal the total change in inequality (except by coincidence)

- Average Contribution with all possible paths considered (Shapley value)
  - Fulfills the principle of aggregation, takes care of path dependency but the sign may be different from the marginal contribution => problematic?

Fiscal Policy and Inequality
Four Key Questions

- Does the net fiscal system decrease inequality?

- Is a particular tax or transfer equalizing or unequalizing?

- What is the contribution of a particular tax or transfer (or any combination of them) to the change in inequality?

- What is the inequality impact if one increases the size of a tax (transfer) or its progressivity?

What is the inequality impact if one increases the size of a tax (transfer) or its progressivity?

- It's complicated….
    - Increasing the progressivity of a tax: equalizing
    - Increasing the size of a tax: whether equalizing or not depends on the *size and progressivity of transfers*

Progressivity vs. Size of Intervention: A System with One Tax and One Transfer

- In a system with one tax and one transfer:

$$MC_T = G_{X+B} - G_{X-T+B} = \ldots = \frac{g\prod_T^K + b\,\rho_B^K}{1 - g + b} - \frac{b}{1+b}\rho_B^K$$

- Getting the partial derivatives:

$$\frac{\partial MC_T}{\partial g} = \frac{(1+b)\prod_T^K + b\,\rho_B^K}{(1-g+b)^2}$$

$$\frac{\partial MC_T}{\partial \prod_T^K} = \frac{g}{1-g+b}$$

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