



Searching for a Consistent Equivalence Scale Across Countries

David Johnson (U.S. Bureau of Economic Analysis)

Markus Jantti (Stockholm University, Sweden)

Paper Prepared for the IARIW 33rd General Conference

Rotterdam, the Netherlands, August 24-30, 2014

Session 2B

Time: Monday, August 25, Afternoon

Searching for a Consistent Equivalence Scale Across Countries

Markus Jantti (Stockholm University) and David S Johnson (Bureau of Economic Analysis)¹

Paper Prepared for Session 2B: Equivalence Scales over Time and Space

IARIW 33rd General Conference, Rotterdam, the Netherlands, August 24-30, 2014

The importance of equivalence scales in the measurement of inequality and poverty has been well documented. The Canberra (2011) report states: “For international comparisons of poverty and inequality, the choice of equivalence scale is also important, as both the ranking of countries at a point in time and the evolution of inequality over time could be affected by the choice.” Most recent international comparisons have relied on using a common equivalence scale when making cross-country comparisons, basing their choice of the square root of family size on the seminal paper by Buhmann et al. (1988). Buhmann et al. (1988), however, claim that one needs to understand the different family arrangements in countries when choosing a scale, and demonstrate that the choice of scale can change the relative ranking of inequality across countries.

In addition, Buhmann et al. (1988) suggest that there could be different economies of scale in different countries. Further, trends in inequality and poverty also make use of the same equivalence scale over time. Similar to differences across countries, economies of scale could change over time within countries. The Canberra (2011) report claims that “The choice of equivalence scale will also depend on the country considered, the structure of household consumption and other factors.” This paper builds on the results of Coulter et al. (1992) who demonstrate the U-shape relationship between the scale parameter and inequality, using a constant

¹ Contact David S. Johnson at US Bureau of Economic Analysis, 1441 L St, NW, Washington, DC, 20230, david.johnson@bea.gov; Markus Jantti at markus.jantti@sofi.su.se. The authors wish to thank Nathaniel Johnson for preliminary analysis of the LIS data. The views expressed in this research are solely those of the authors and do not necessarily reflect the official positions or policies of the Bureau of Economic Analysis or the views of other staff members. The authors accept responsibility for all errors.

elasticity scale, m^δ . We follow the suggestion in Johnson and Torrey (2004) and evaluate the scale elasticity that minimizes inequality, as this could be a measure of the differences in family size across countries.

We use the LIS data for 41 countries to evaluate the relationship between the scale parameter, which can represent the household economies of scale, and inequality and poverty. Using the two-parameter equivalence scale (see Banks and Johnson (1994), Citro and Michael (1995)), such that the scale for adults, a , and children, k , $M(a,k) = (a + \gamma k)^\delta$, we further evaluate the impact on inequality and poverty of changing the child parameter.

By examining 41 countries over multiple years, we find that the scale elasticity that minimizes inequality ranges from 0.0 to 0.7 across countries, but that more than half of the countries have a minimum in the range of 0.4 to 0.6. As expected, the scale elasticity impacts a country's inequality and displays the U-shaped relationship, however, the choice of scale elasticity does not greatly impact the country inequality ranking. In addition, the choice of child parameter has less impact on inequality than the scale elasticity's impact. The poverty rate, however, is more affected by the choice of scale elasticity and child parameter. Finally, all countries seem to show consistent trends over time for scale parameters. This suggests that while there is no two-parameter scale to use for all countries, using a common scale for within country analysis over time is reasonable.

I. The literature

While Buhmann et al. (1988) demonstrate the impact of using different equivalence scales, they conclude: "Choice of equivalence scale can systematically affect comparative absolute and relative levels and rankings of countries (or groups within countries) with respect to measured inequality and poverty. Because of these sensitivities, one must carefully consider summary

statements and policy implications derived from cross-national comparisons of poverty and/or inequality.”

Almost all international comparisons of inequality or poverty use a common equivalence scale for all countries and time periods (see OECD (2011), Bradbury and Jantti (2001)). The early OECD reports (see OECD (1986)), however, used different equivalence scales in comparing a few different countries. Research suggests that there could be different economies of scale across countries (see Merz et al. (1994)) as well as differential “costs” of children (see Tsakloglou (1991)). With differences in the economies of scale across counties, it might improve the comparability of well-being to use different equivalence scales. Johnson (2004) and Banks and Johnson (1994) show that the scale can also affect the changes in inequality over time.

Other researchers have also suggested that scales should differ by country and over time. Lancaster et al. (1999) stated: “The same equivalence scale model yields quite different scale estimates for the different countries. It is, therefore, unwise to use the same scale value for all the countries in the inequality comparisons.” Duclos and Mercader-Prats (1999) similarly stated: “we must consider not only the issue of how to equalize resources of households with different characteristics but also whether or not these resources can be equalized with the same scale across countries and across time. Put in other words, are the relative needs of households necessarily the same in the U.K. as in Spain?”

Most estimates use scales that show smaller “costs” for children. Some research, however, suggests that children could “cost” even more than adults, such that the scales increase more for the additional child than for the additional adult. For example, the three-parameter scale used in the Census Bureau’s Supplemental Poverty measure is larger for a one-adult, one-child family than for a two-adult couple. Using changes in subjective well-being measures, Bollinger et al. (2012) find that an additional child adds more than 1 to the equivalence scale. Tsakloglou (1991) and Deaton and

Muellbauer (1986) show that different estimation methods can yield different results for the child parameter (or cost of children), and by including time costs, Bradbury (2006) finds that children could “cost” more than adults.

Many studies have examined the method of estimating equivalence scales. Merz et al. (1994) find that the Barton-Gorman method yields fairly similar scales for the US and Germany, as does Phipps and Garner (1994) for the US and Canada. Both papers evaluate the impact that these scales have on poverty, and suggest that these results are different than those obtained using the country specific “official” scales or the standard OECD scales.

Other papers also compare the equivalence scales resulting from similar estimation methods – Deaton and Paxson (1998) compare a variety of countries, Duclos and Mercader-Prats (1999) compare the U.K. and Spain, and Deaton and Muellbauer (1986) compare Sri Lanka and Indonesia. All of these papers show that similar methods can yield different scales. Burkhauser et al. (1996) also uses the same estimation method for the US and Germany in an attempt to determine a “cross-national equivalence scale.” They suggest that estimates are “...complicated by the fact that, unlike national equivalence scales, which at least have some anchor in official government policy, no officially designated multi-national equivalence scale exists.” They conclude that they cannot identify a common cross-national equivalence scale.

The most complete evaluations of the impact of different scale parameters on inequality are produced by Bönke and Shröder (2007) and Okamoto (2012).² Both show the U-shape relationship for over 20 countries (and 34 countries in Okamoto (2012)) and find that the scale elasticity has a minor impact on the country rankings (see Figure 7 in Bönke and Shröder (2007)). Okamoto (2012)

² de Vos and Zaidi (1997) also examined 12 countries and three scales.

also examines the change in scales for Japan over a 20 year period. He finds that the minimum δ increases over the period, along with increases in inequality.

Bradbury et al. (2014) show that household size has fallen over time for most countries. Logan (2008) also suggests that in the U.S. economies of scale have fallen over time. Suppose that the fall in household size in the US (from an average of 3.2 in 1969 to 2.5 in 2012) is due to decreasing economies of scale – and hence, an increase in single-person households. In the US, single-person households have increased by 114% between 1969 and 2012, while the total number of households has increased by 95%.

These changes in household size and composition can have impacts on the economies of scale and the appropriate equivalence scales to use in each decade. Deaton and Paxson (1998) show that food consumption and household size are related and that estimates of Engel equivalence scales will depend on the relative economies of scale within countries. As these economies of scale can change over time, the equivalence scales can also change over time. Many researchers have further demonstrated that equivalence scales do not satisfy the independence-of-base assumption, and hence, change with the level of spending (or income). As such, if income increases over time within countries, this could yield different equivalence scales. Merz et al. (1994) estimate scales for a couple of years. While they find similar scales, the scales for larger families in the US (sizes five and six) are slightly smaller in 1987 than in 1983.

Many studies that examine panel data for changes in the relationship between spending and income or wages use similar equivalence scales (see Kaplan (2012); Bick and Choi (2012) attempt to determine theoretically consistent life-cycle scales). However, some analyses use a regression approach to control for family size (see Aguiar and Bils (2011), Browning et al. (2012), and Blundell et al. (2008)). In these cases, if the coefficients change with age cohort or time, then this suggests

that the equivalence scale changes over time. Crossley and Pendakur (2002), in their evaluation of Canadian inequality, estimate scales that depend on prices, and hence, the scales change over time.

One implication of changing equivalence scales over time is the impact on the growth (and cross-country comparisons) in GDP or national income. Most studies use per-capita GDP (or income) to compare across countries and over time. Jorgenson and Slesnick (2014) provide a measure of social welfare by estimating the personal consumption expenditures (PCE) per household equivalent member, which is calculated using an estimated equivalence scale for all households.

The US Census Bureau, in its annual release of the household income and inequality measures using the Current Population, provides the differences between the trends in household income and equivalent household income. For example, between 1969 and 2012, real household income increased on 20%; however, adjusting for household size and using a three-parameter scale to adjust household income, yields an increase of 43% in equivalent income.

Trends in per-household income will differ from per-capita income as household size has tended to fall over time in the US (and other countries). This will cause the increase in per-household income to be smaller than the increase in per-capita income. An alternative measure would be the per-equivalent person income (or GDP), which is obtained by dividing income by the number of equivalent persons (a number that would lie between the number of households and the population). This could account for changes in the household size and economies of scale. Using the US data, we find that between 1969 and 2012, per-capita real disposable income increased by 131%, while per-household income increased by 84%. Using the square root of household size equivalence scale yields a 105% increase in per-equivalent disposable income.³ Similarly, using the equivalent

³ The number of equivalent persons is found by using the number of households by household size and multiplying the number of households of each size by the square root of household size. For example, in 2012 there are 122 million households, 314 million people, and 186 million equivalent household persons.

household member from Jorgenson and Slesnick (2014) yields a 109% increase in per-equivalent disposable income.

As suggested by Duclos and Mercader-Prats (1999) and Deaton and Paxson (1998), the household economies of scale can change over time. Incorporating these changes in economies of scale in the adjustments for per-equivalent disposable income (by changing the scale elasticity over time), will have large impacts on the changes in income (and inequality). For example, changing the scale elasticity from 0.5 in 1969 to 0.6 in 2012 causes the change in real disposable income to fall from a 105% increase to an 87% increase.

While many international comparisons evaluate the impact that the scale elasticity has on the cross-country rankings, few researchers consider using different scales for different countries. As shown in Coulter et al. (1992), using m^δ as the scale yields a U-shape relationship between inequality and δ . They provide equations to demonstrate the relationship for the Gini and Generalized Entropy measures. Following Coulter and Mercader-Prats(1999), and using the Generalized Entropy measure, $GE(0)$, the mean log deviation, I_0 , yields (see equation 35).

$$\frac{\partial I_0}{\partial \delta} = - \frac{cov(y, \log(m))}{\mu(y)} = - \frac{cov(x, \log(m))}{\mu(x)} + \delta \cdot var(\log(m))$$

Hence, minimizing with respect to δ yields:

$$\frac{cov(x, \log(m))}{\mu(x)} = \delta \cdot var(\log(m))$$

NOTE: x is unadjusted income, y is equivalence adjusted income, and m is household size.

At the minimum δ , the covariance of equivalent income and size is equal to zero, and the covariance of unadjusted income equals the variance of the log of household size times the mean income. In some sense, at the minimum, the scale elasticity equates the covariance of income and household size and the variance of household size. Since this minimum δ depends on the

correlation between size and income, it is possible that this value represents a meaningful value that equilibrates the relative economies of scale present in a country. Another way to think of using the value of the equivalence scale parameters that minimize the index is that this errs on the side of caution; i.e., one stacks the odds against finding a big difference in inequality (or poverty) between any two countries.

II. The LIS Data

We use data from the Luxembourg Income Study (LIS) database (Luxembourg Income Study, 2014) to examine empirically the robustness of country rankings by inequality and poverty. We use data for altogether 41 countries distributed across 240 datasets (for multiple waves of data representing multiple years), but focus mostly on the latest dataset for each country. We measure inequality and poverty in disposable household income (dhi), delimiting data to those units where this is positive (so as to have the same sample for all inequality and poverty indices, as the Generalized Entropy class of inequality indices for parameter 0 and 1 can only be applied to strictly positive incomes). All indices are estimated from individual-level data with equivalent household income combined with the individual records and are inflated to the population level using the appropriate weights.

III. Results

Figures 1 – 3 show the impact of changing both parameters on the Gini, mean log deviation (GE(0)) and coefficient of variation (GE(2)) inequality indices for select countries. Panel A shows the impact of changing δ for various child parameters, γ , and Panel B shows the impact of changing γ for various values of δ . All show the expected U-shape relationship with δ , and the U-shape relationship is similar for all inequality measures. Crossings are only present in the coefficient of

variation measure (Figure 3). Focusing on the impact of the scale elasticity, δ , with γ fixed at 1.0 (the last set of graphs in Panel A), demonstrates the basic relationship discussed in Coulter et al. (1992), in which the minimum for these countries lies in between 0.4 and 0.7

As shown in Figures 1 and 2, using the minimum δ instead of 0.5, shows that no countries would change rank. Using all countries also yields fairly stable rankings. In fact, figure 7 shows that the rank correlation for both parameters across all countries is fairly tight, and large. These results confirm the results in Coulter et al. (1992) and Bönke and Shröder (2007) that, while the scale parameters have a large impact on inequality estimates, very few countries change rank as the scale elasticity is changed. The figures (and the results for all countries) show that for practical values of the scale elasticity around the minimum values (from 0.4 to 0.7), inequality is fairly stable.

Figures 1-3 also show the impact of changing the child parameter, γ . Changing this parameter has little impact on the inequality measures, especially for δ in the usual range of 0.4 to 0.7. This confirms results in Banks and Johnson (1994). They also find that poverty and inequality increase with increases in the child parameter (as in the US). Finland, however, shows that inequality falls (and poverty falls) with increases in the child parameter, γ .

Figures 4 – 6 show the impact of changing the parameters on the poverty rate, the FGT(1) and FGT(2) poverty measures. The poverty head count measure is more affected by changes in the scale parameters than is inequality, and often displays a reverse J-shape relationship (as confirmed by Coulter et al. (1992)). In addition, there are more crossings for various countries than for inequality. Similarly, Figure 7 shows that the rank correlations are more impacted and smaller than those for inequality. In Figure 7, the scale is from 0 to 1, and the separate figures demonstrate that for inequality indices, using the same equivalence scale parameter for each country but exploring the full range of possible values, the rank correlations of the country inequality rankings are close to one, suggesting scale relativities do not matter that much for the inequality ranking. For the head

country poverty rate, however, the rank correlations are often as low as 0.6, suggesting scale relativities matter a great deal for the country rankings. The rankings become “tighter” for the FGT1 and FGT2 poverty measures, which use richer information (average depth of poverty and its coefficient of variation, respectively, in addition to the proportion poor). One interesting result is that the relationships are not as smooth with changes in δ as the U-shape relationships for inequality (as shown in Coulter et al. (1992)). The FGT(2) measure, however, shows a more smooth relationship, which is similar to the results in Figure 3 for the GE(0) measure.

Tables 1-4 show for each inequality and poverty index which equivalence scale parameter minimizes the index.⁴ Tables 1 and 2 fix the child parameter, γ , at 1 and show which value of δ the index attains the minimum. These tables are similar to the tables presented in Okamoto (2012), and demonstrate that there is quite some variation both within countries across indices and between countries. The minimum ranges from 0.0 to 0.7, with four countries having the minimum of 0, and nine countries the maximum of 0.7. In rich countries, the value of δ , which minimizes the index tends to be reasonably close to 0.5 (the square root scale). Given the often reverse J-shape relationship of poverty and the scale elasticity shown in Figures 4-6, there is some tendency for δ to be higher for poverty than for inequality.

In some poorer countries, such as China and South Africa, inequality attains its minimum for $\delta=0$ (also for poverty in China). Table 2 reports value of δ for all LIS data points. While there are exceptions to this, the minimizing δ changes little or is constant within countries. In Tables 3 and 4, we allow for both the child weight γ and adult equivalence elasticity δ to vary and choose the combination that attains the minimum. In most cases, and especially in less developed countries, the child weight is quite low but the adult equivalence parameters are higher than when γ is fixed at

⁴ The minimum is found by finding the minimum from an 11x11 grid of parameters, δ and γ , which each range from 0 to 1, in integer increments.

1 (and in Table 1). Turning to examine the stability of the minimizing pair of parameters in Table 4, there is reasonable stability – pairs are either constant or change little from wave to wave (and year to year).

Duclos and Mercader-Prats (1999) show that the OECD modified scale has a child parameter of about 0.8 and a scale elasticity of 0.7, and that the McClements scale parameters are 0.8 and 0.5. While Coulter et al. (1992) show that a scale elasticity of 0.6 (which is approximately close to the McClements scale) provides lower estimates, Banks and Johnson (1994), using a two-parameter scale, find a minimum scale that is different than the McClements scale. Table 3 shows that the McClements scale is not the minimum for the UK, and the OECD scale is not the minimum for any country.

Finally, we examine the effects on the changes over time for inequality. Panel A in Figure 8 shows that for the Gini the U-shape consistently holds over time and the curves tend to shift uniformly up as inequality increases over time (denoted by higher numbered waves). This suggests that it is reasonable to use the same scale over time for each country. As suggested by Coulter et al. (1992) and demonstrated in Johnson (2004), using the minimum value consistently over time yields a larger increase in inequality than using an extreme scale value (closer to 0 or 1).

Alternatively, Panel B in Figure 8 shows the child parameter (for the middle values of δ) displays a much less pronounced U-shape. As discussed above, increases in γ usually increases inequality. As such, if child costs increase over time, the γ would increase over time, yielding a larger increase in inequality than would occur if a constant γ were used. For Finland, however, an increase in the child parameter over time would yield decreases in inequality.

Figure 9 shows the trends over time for the head count poverty rates. Panel A, again, shows, with a few exceptions, that poverty is U-shaped in δ with a pattern that is mostly stable within

countries. Panel B suggests poverty, like the Gini coefficient in Figure 9, is mostly quite stable with respect to the child cost parameter γ .

IV. Conclusion

Our results suggest scale parameters matter a great deal for the value of inequality and poverty indices. Country inequality rankings are quite stable, but poverty rankings, especially for the proportion poor, are not. The equivalence scale parameters that minimize inequality or poverty vary across measures and countries, but are reasonably stable within countries. This suggests that in studying changes across time within countries, it is reasonable to use the same scale.

Our results further suggest that it may be very difficult to justify any choice of equivalence scale in cross-country comparisons. One option that has been raised in the literature is to resort to dominance analysis by population subgroups, where the population is partitioned by decreasing needs. This procedure, as discussed by Jenkins and Lambert (1994) requires the analyst to order household types by their needs, but does not require that ordering to be further cardinalized (which is what choosing a parametric scale achieves). This may result in only a partial rather than complete order, but is on the other hand robust to differences in scales.

References

- Aguiar, M. and M. Bils, "Has Consumption Inequality Mirrored Income Inequality," NBER Working Paper 16807, 2011
- Banks, J. and Johnson, P., 'Equivalence scale relativities revisited.' *Economic Journal*, vol. 104, pp.883–890, 1994.
- Bick, A. and S. Choi, "Revisiting the Effect of Household Size on Consumption Over the Life-Cycle," ASU Working Paper, October 2012
- Blundell, R., L. Pistaferri, and I. Preston, "Consumption Inequality and Partial Insurance," *American Economic Review*, 98:5, pp. 1887–192, 2008.
- Bollinger, C., C. Nicoletti, and S. Pudney, "Two can live as cheaply as one... but three's a crowd," ISER Working Paper Series No. 2012-10, 2012.
- Bönke, T., Schröder, C., "Equivalence scales reconsidered: an empirical investigation," Economics working paper / Christian-Albrechts-Universität Kiel, Department of Economics, No. 2007-31, 2007.
- Bradbury, B. and M. Jantti, "Child poverty across twenty-five countries" in Bruce Bradbury, Stephen P. Jenkins, and John Micklewright, ed., *The Dynamics of Child Poverty in Industrialised Countries*. Cambridge University Press: Cambridge, UK, 2001.
- Bradbury, M., Peterson, N. and Liu, J., "Longterm dynamics of household size and their environmental implications," *Population and Environment*, 2014.
- Browning, M., Alan, S. and M. Ejrnæs, "Income and consumption: a micro semi-structural analysis," PSID conference, 2012.
- Buhmann, B., Rainwater, L., Schmauss, G., and Smeeding, T., "Equivalence Scales, Wellbeing, Inequality, and Poverty: Sensitivity estimates across Ten Countries Using the Luxembourg Income Study Database," *Review of Income and Wealth*, 34, 115-142, 1988.
- Burkhauser, R., J. Merz and T. Smeeding, "Relative Inequality And Poverty In Germany And The United States Using Alternative Equivalence Scales," *Review of Income and Wealth*, 42:4, 1996
- Canberra Group, *Expert Group on Household Income Statistics, 2nd Edition*, Ottawa Press, 2011.
- Citro, C. and R. Michael (eds.), *Measuring Poverty: A New Approach*, Washington, D. C.: National Academy Press, 1995.
- Coulter, F.A.E., Cowell, F.A., and Jenkins, S.P., "Equivalence Scale Relativities and the Extent of Inequality and Poverty," *The Economic Journal*, Vol. 102, 1067-1082, 1992.

- Cowell, F. and M. Mercader-Prats, "Equivalence Scales and Inequality," DARP-27, STICERD, 1999
- Crossley, T. and K. Pendakur, "Consumption Inequality," Department of Economics Working Papers 2002-09, McMaster University.
- Deaton, A. and Muellbauer, J., "On Measuring Child Costs: With Applications to Poor Countries," *Journal of Political Economy*, 94, 720-44, 1986.
- Deaton, A. and C. Paxson, "Poverty among children and the elderly in developing countries," Princeton University working paper, 1997
- Deaton, A. and C. Paxson, "Economies of Scale, Household Size, and the Demand for Food," *Journal of Political Economy*, vol 106, 5, 897-930, 1998
- De Vos, K. and M.A. Zaidi, "Equivalence Scale Sensitivity of Poverty Statistics for the Member States of the European Community," *Review of Income and Wealth*, 43, 3, 1997
- Duclos, J. and M. Mercader-Prats, "Household Needs and Poverty: With Application to Spain and the U.K.," *Review of Income and Wealth*, 45:1, 1999.
- Förster, M. F., "Measurement of Low Incomes and Poverty in A Perspective of International Comparisons", *OECD Labour Market and Social Policy Occasional Papers*, No. 14, OECD Publishing, 1994.
- Jenkins, S. and P.J. Lambert, "Ranking Poverty Gap Distributions," University of Swansea, 1994.
- Johnson, D., "Using Expenditures to Measure the Standard of Living in the United States: Does it Make a Difference?" in Edward N. Wolff, ed., *What Has Happened to the Quality of Life in the Advanced Industrialized Nations*, Edward Elgar Publishing: Northampton, MA., 2004
- Johnson, D. and Torrey, B., "Book Review: Child Poverty in Wealthy Countries," *Review of Income and Wealth*, 50:1, 125-134, 2004.
- Jorgenson, D. and D. Slesnick, "Measuring social welfare in the National Accounts," Eurostat, 2014
- Kaplan, G., "Inequality and the Life cycle," *Quantitative Economics*, 3, 471–525, 2012
- Lancaster, G., R. Ray and M.R. Velenzuela, "A Cross-Country Study of Equivalence Scales and Expenditure Inequality on Unit Record Household Budget Data," *Review of Income and Wealth*, 45:4, 1999
- Logan, T., "Economies of Scale in The Household: Puzzles And Patterns From The American Past," NBER Working paper #13869, 2008
- Luxembourg Income Study Database (LIS), www.lisdatacenter.org (multiple countries; data used between June 15-August 7 2014). Luxembourg: LIS.

Merz, J., T. Garner, T. Smeeding, J. Faik and D. Johnson, "Two Scales, One Methodology -Expenditure Based Equivalence Scalesfor the United States and Germany," MPRA Paper No. 7233, 1994

OECD, *Living conditions in OECD countries: a compendium of social indicators*, 1986

OECD, *Divided We Stand: Why Inequality Keeps Rising*, OECD Publishing, 2011.

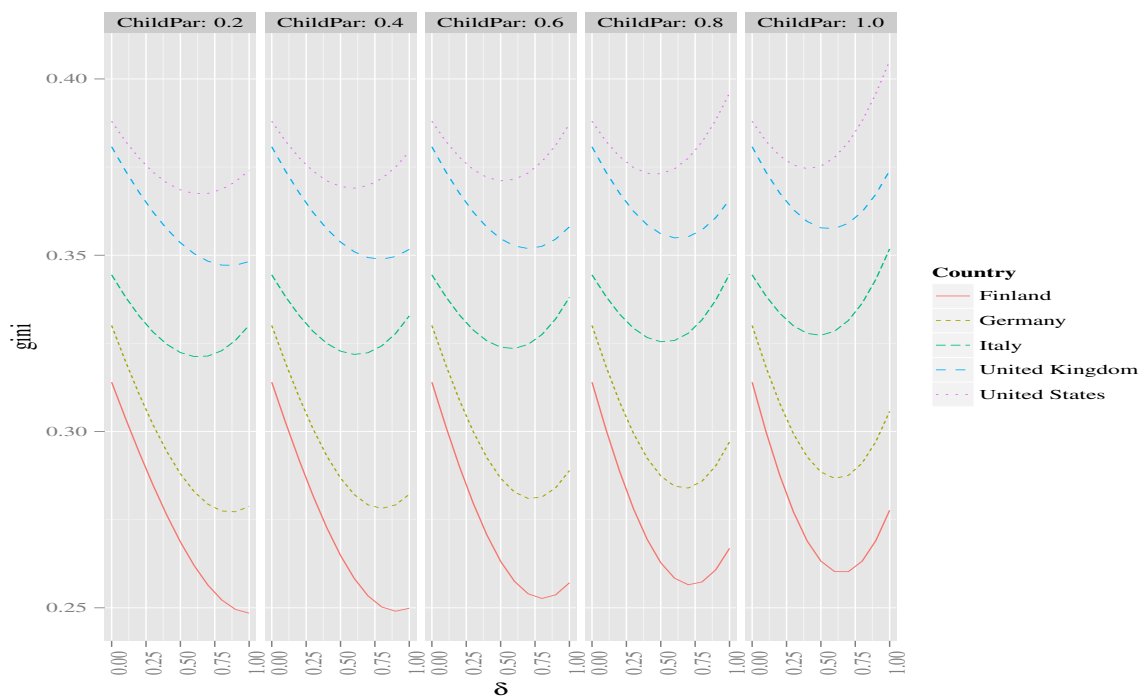
Okamoto, M., "The Relationship between the Equivalence Scale and the Inequality Index and its Impact on theMeasurement of Income Inequality," LIS Working Paper, 2012.

Phipps, S. and T. Garner, "Are Equivalence Scales The Same For The United States And Canada?" *Review of Income and Wealth*, 40:1, 1994

Tsakloglou, P. "Estimation and Comparison of Two Simple Models of Equivalence Scales for the Cost of Children," *The Economic Journal*, Vol. 101, No. 405, 343-357, 1991

Figure 1 The Gini coefficient for different equivalence scales in selected LIS countries – latest wave of LIS data

A. Adult parameter (δ) by selected values of child parameter (γ)



B. Child parameter (γ) by selected values of adult parameter (δ)

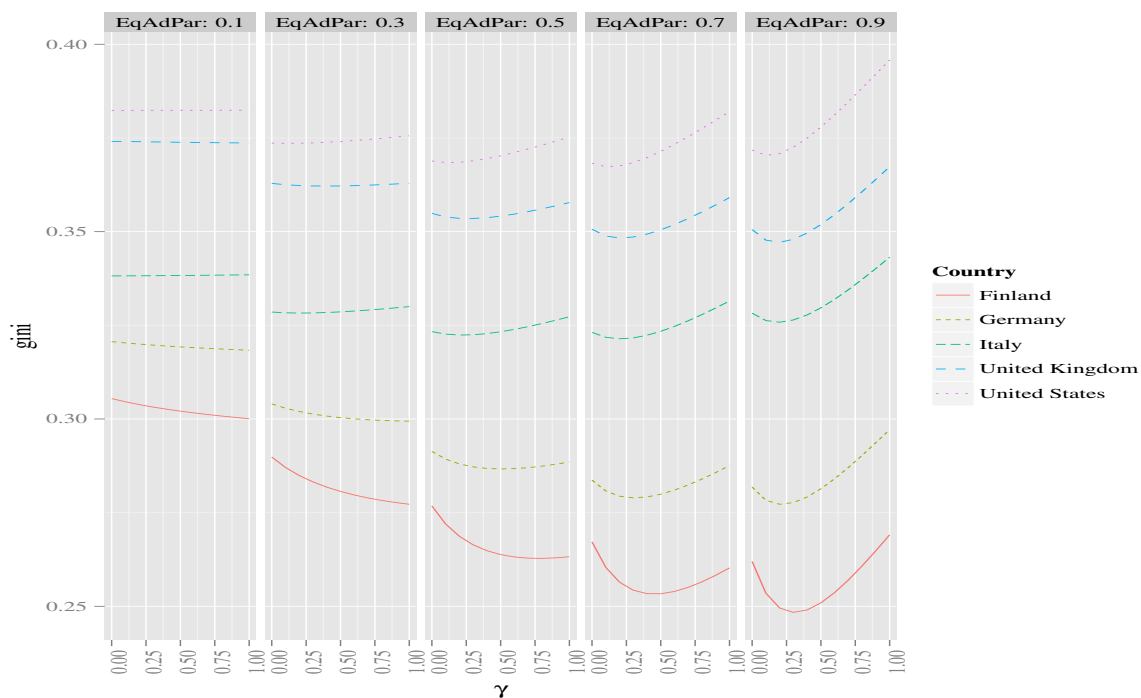
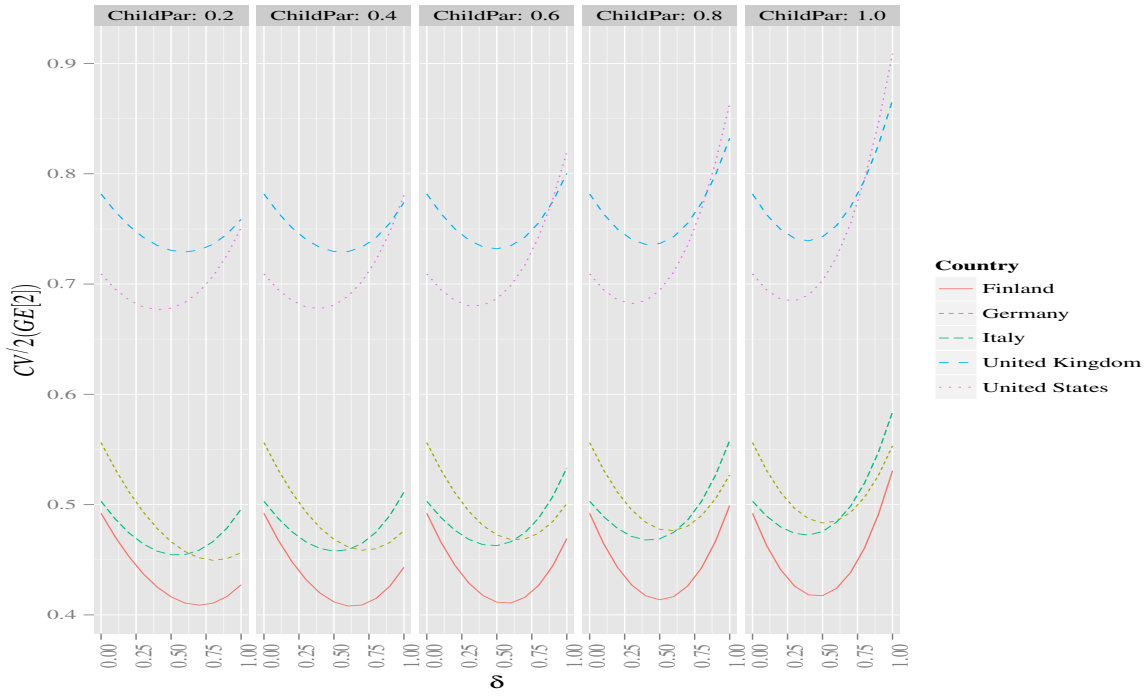


Figure 2 The $CV^2(GE[2])$ for different equivalence scales in selected LIS countries – latest wave of LIS data

A. Adult parameter (δ) by selected values of child parameter (γ)



B. Child parameter (γ) by selected values of adult parameter (δ)

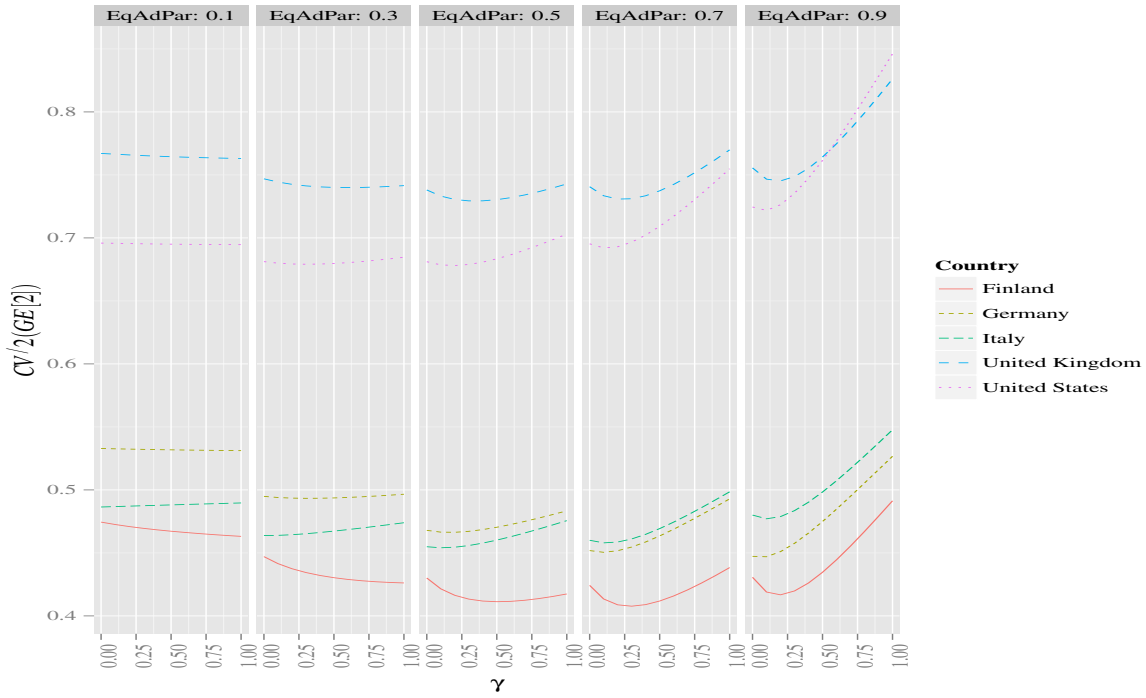
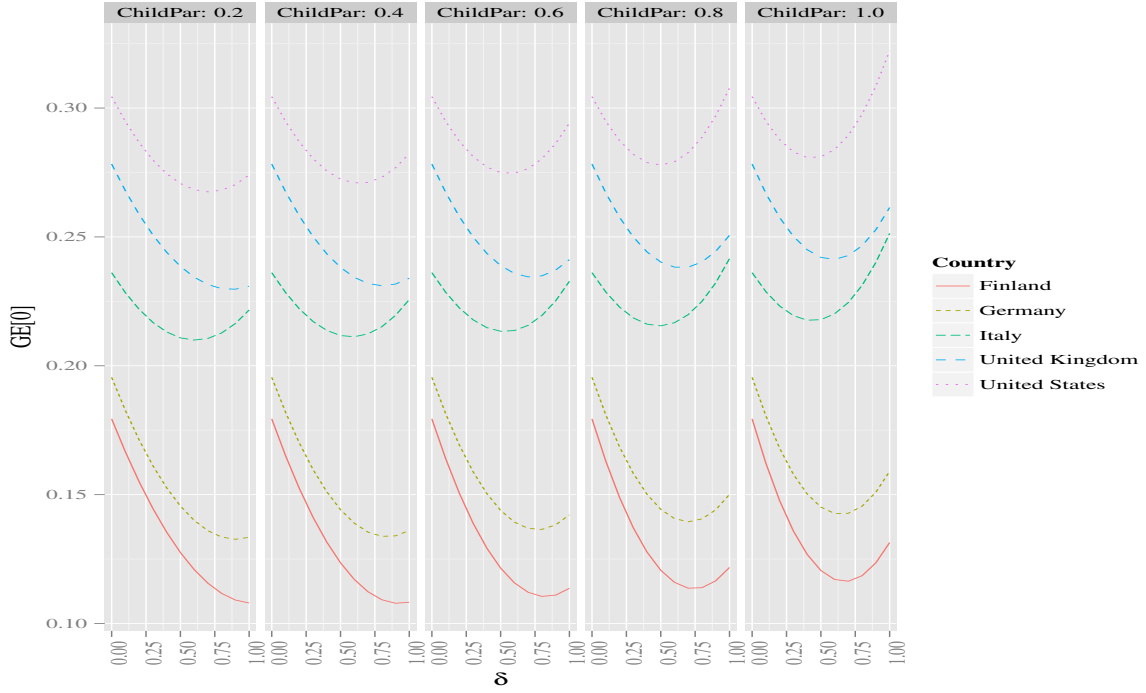


Figure 3 The GE[0] for different equivalence scales in selected LIS countries – latest wave of LIS data

A. Adult parameter (δ) by selected values of child parameter (γ)



B. Child parameter (γ) by selected values of adult parameter (δ)

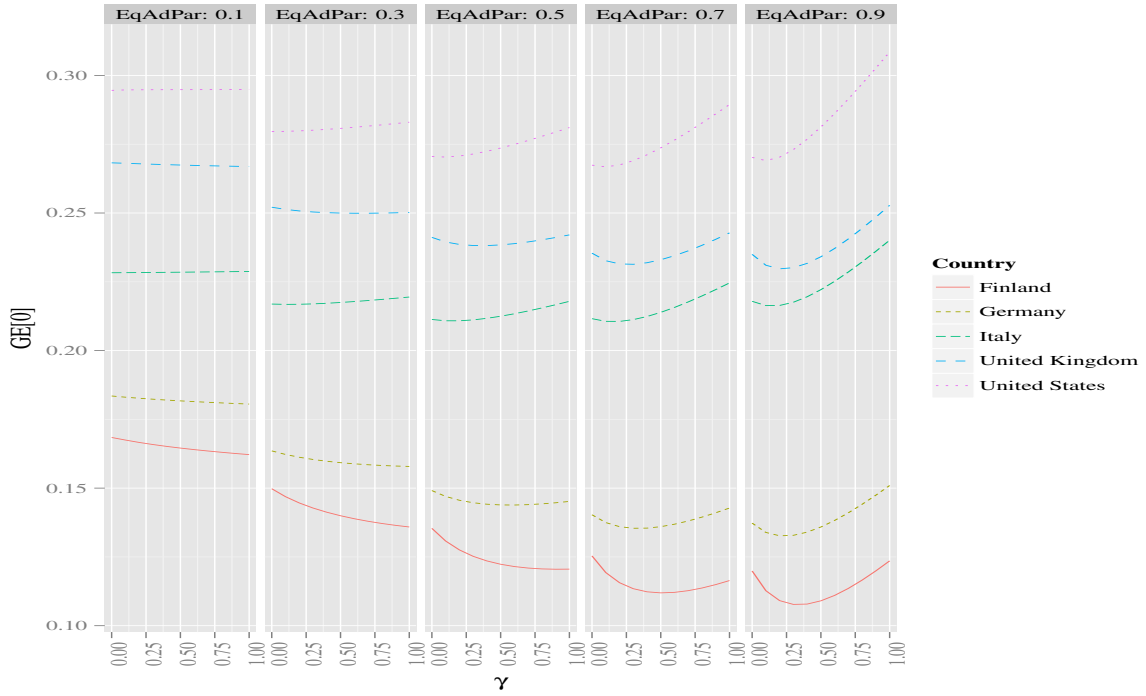
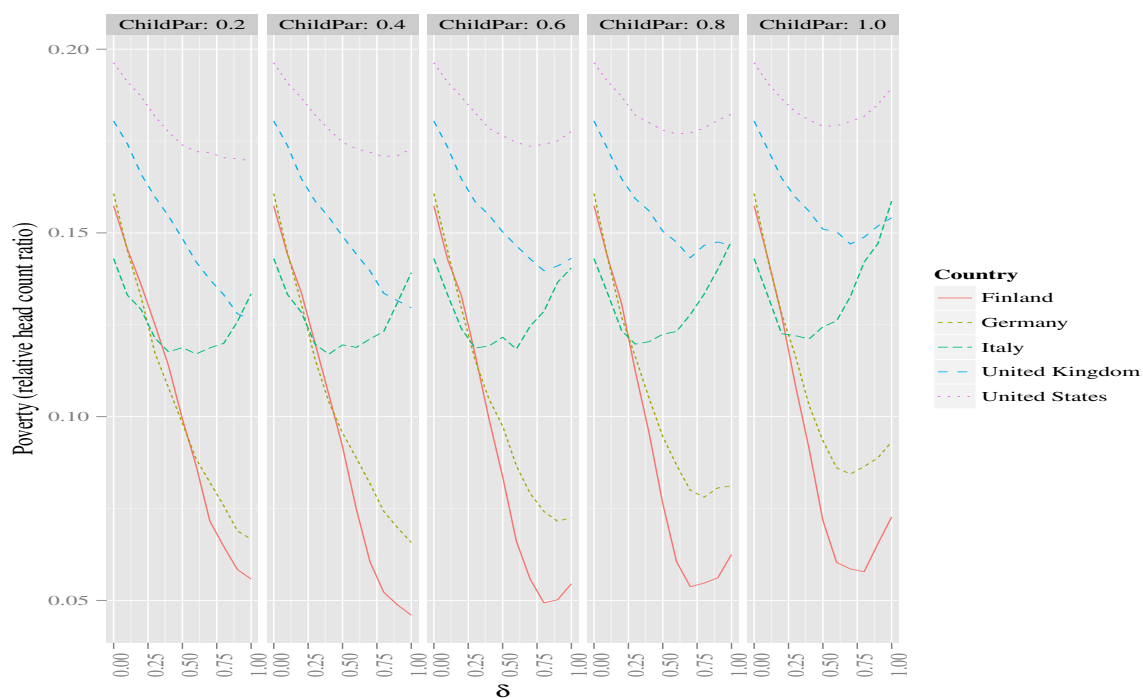


Figure 4 The relative head count poverty reate for different equivalence scales in selected LIS countries – latest wave of LIS data

A. Adult parameter (δ) by selected values of child parameter (γ)



B. Child parameter (γ) by selected values of adult parameter (δ)

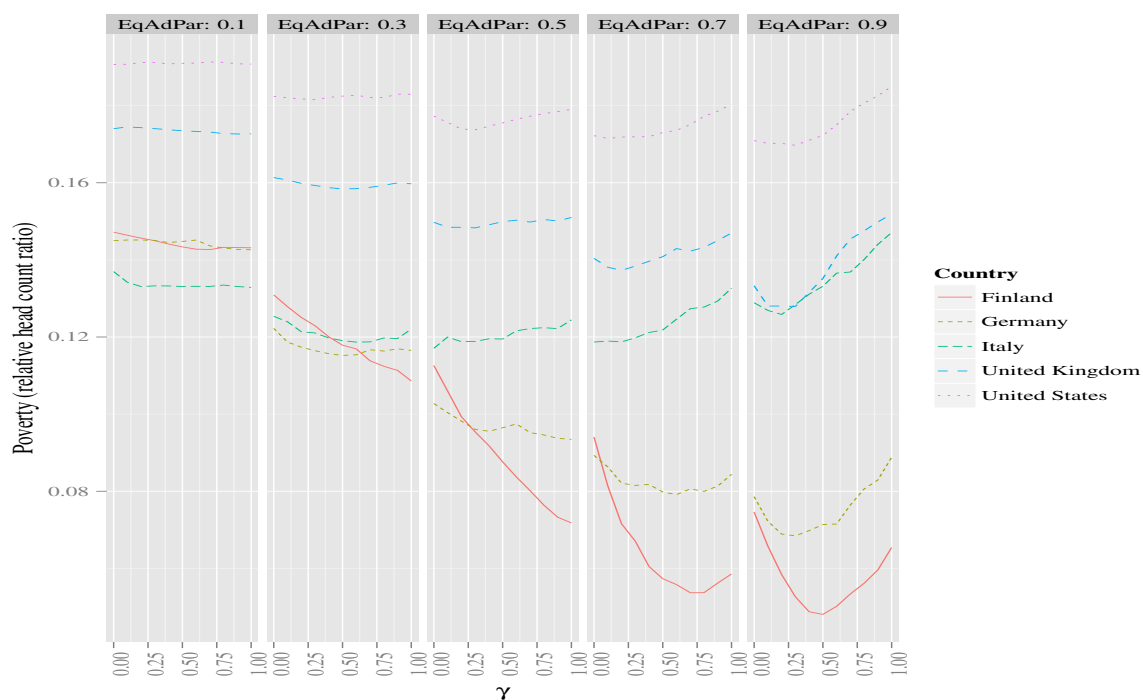
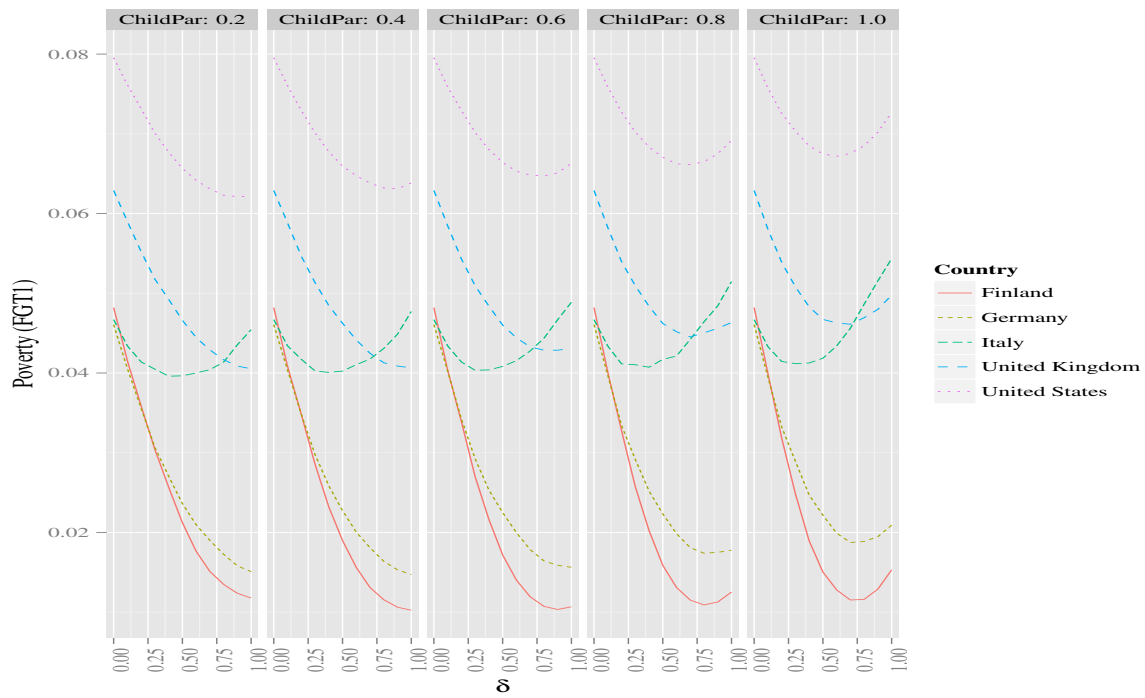


Figure 5 FGT(1) for different equivalence scales in selected LIS countries – latest wave of LIS data

A. Adult parameter (δ) by selected values of child parameter (γ)



B. Child parameter (γ) by selected values of adult parameter (δ)

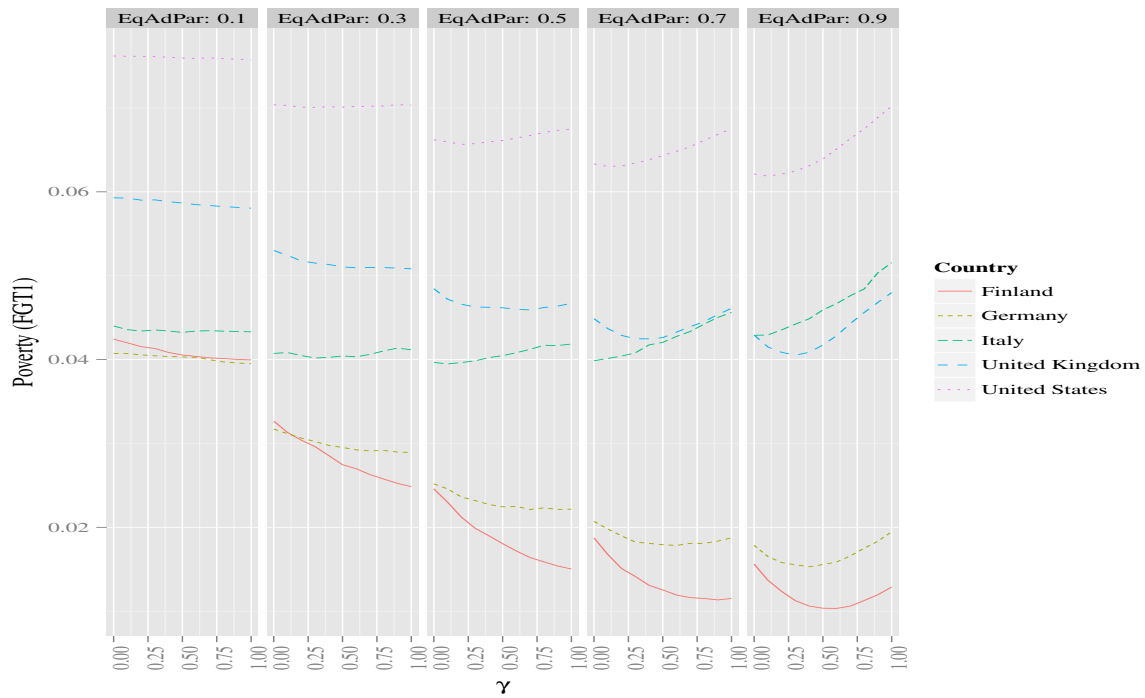
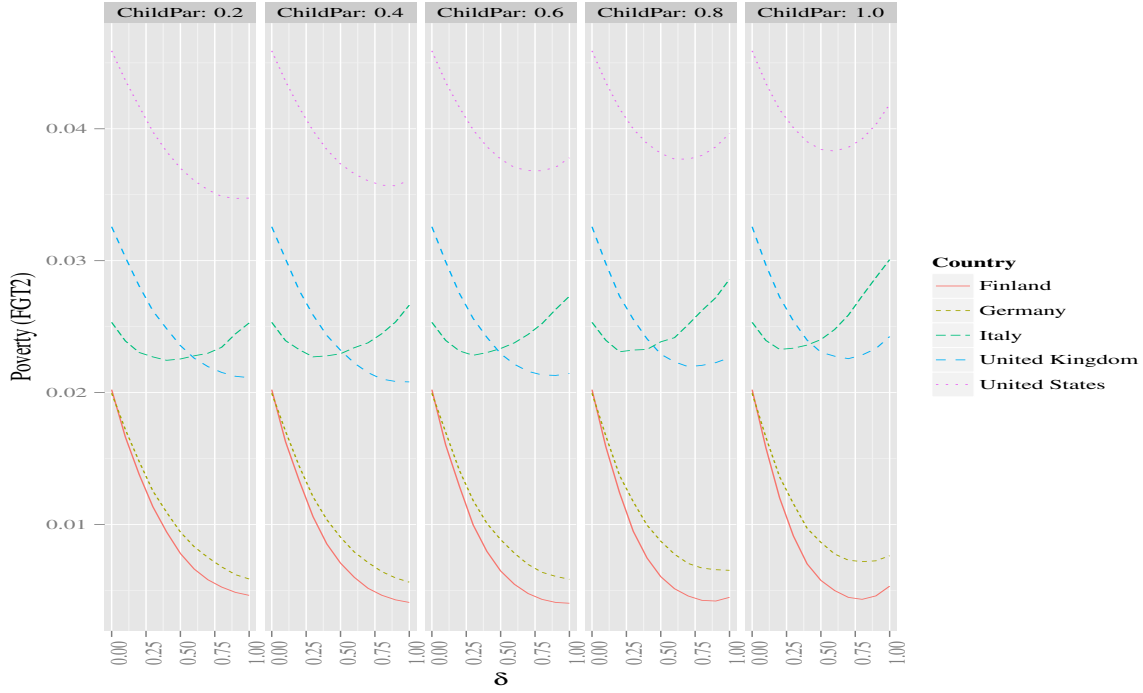


Figure 6 FGT(2) for different equivalence scales in selected LIS countries – latest wave of LIS data

A. Adult parameter (δ) by selected values of child parameter (γ)



B. Child parameter (γ) by selected values of adult parameter (δ)

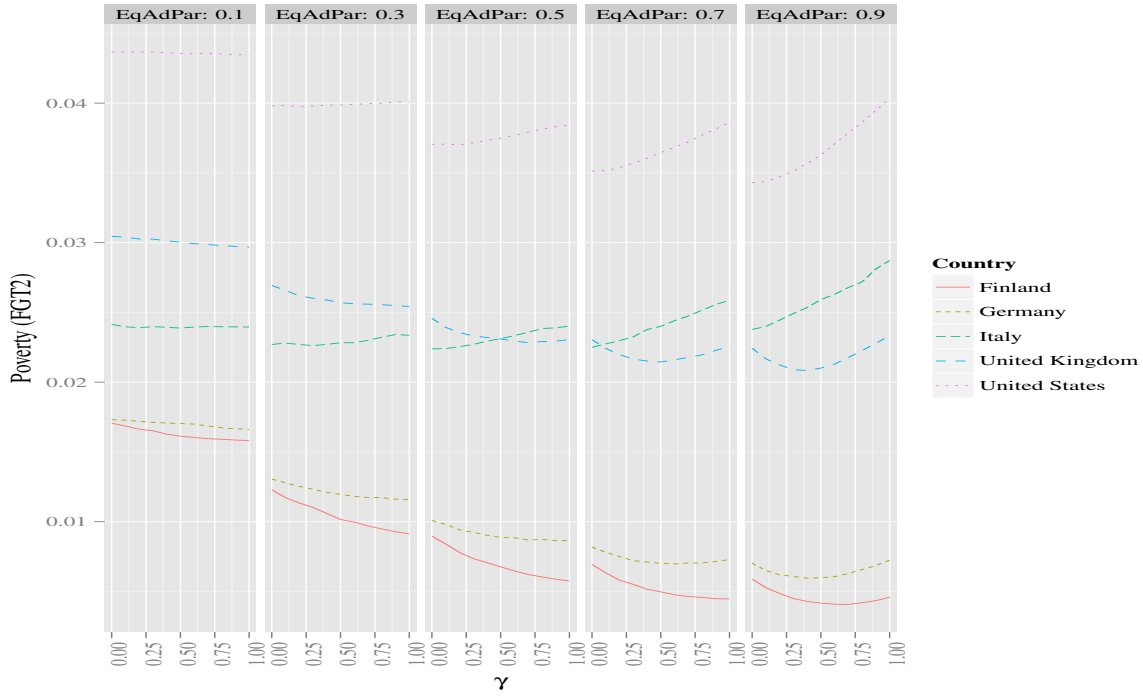


Figure 7 Rank correlations across equivalence scale parameters

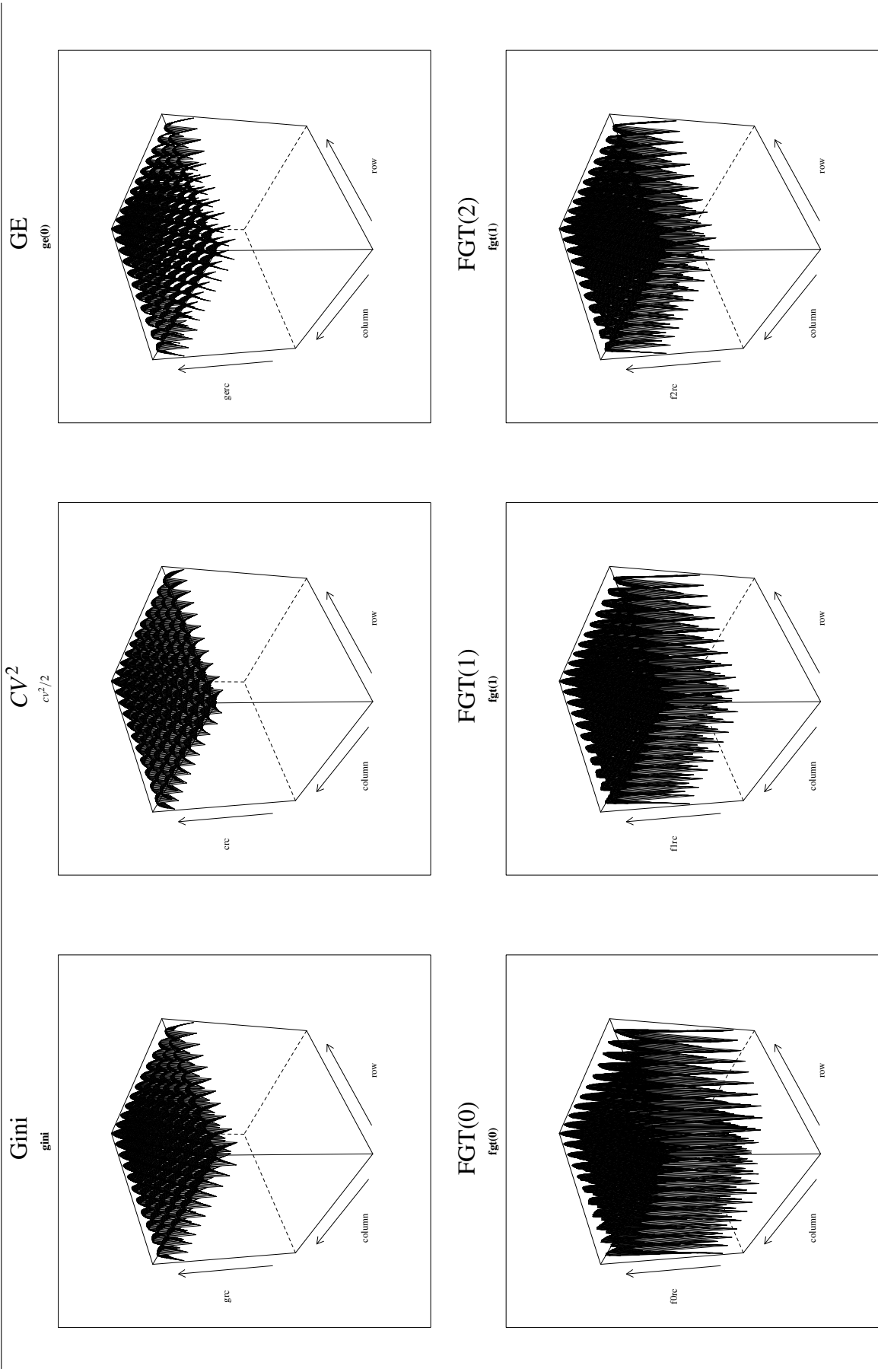


Figure 8 The Gini coefficient for different equivalence scales in selected LIS countries – all waves

A. Adult parameter (δ) by selected values of child parameter (γ)

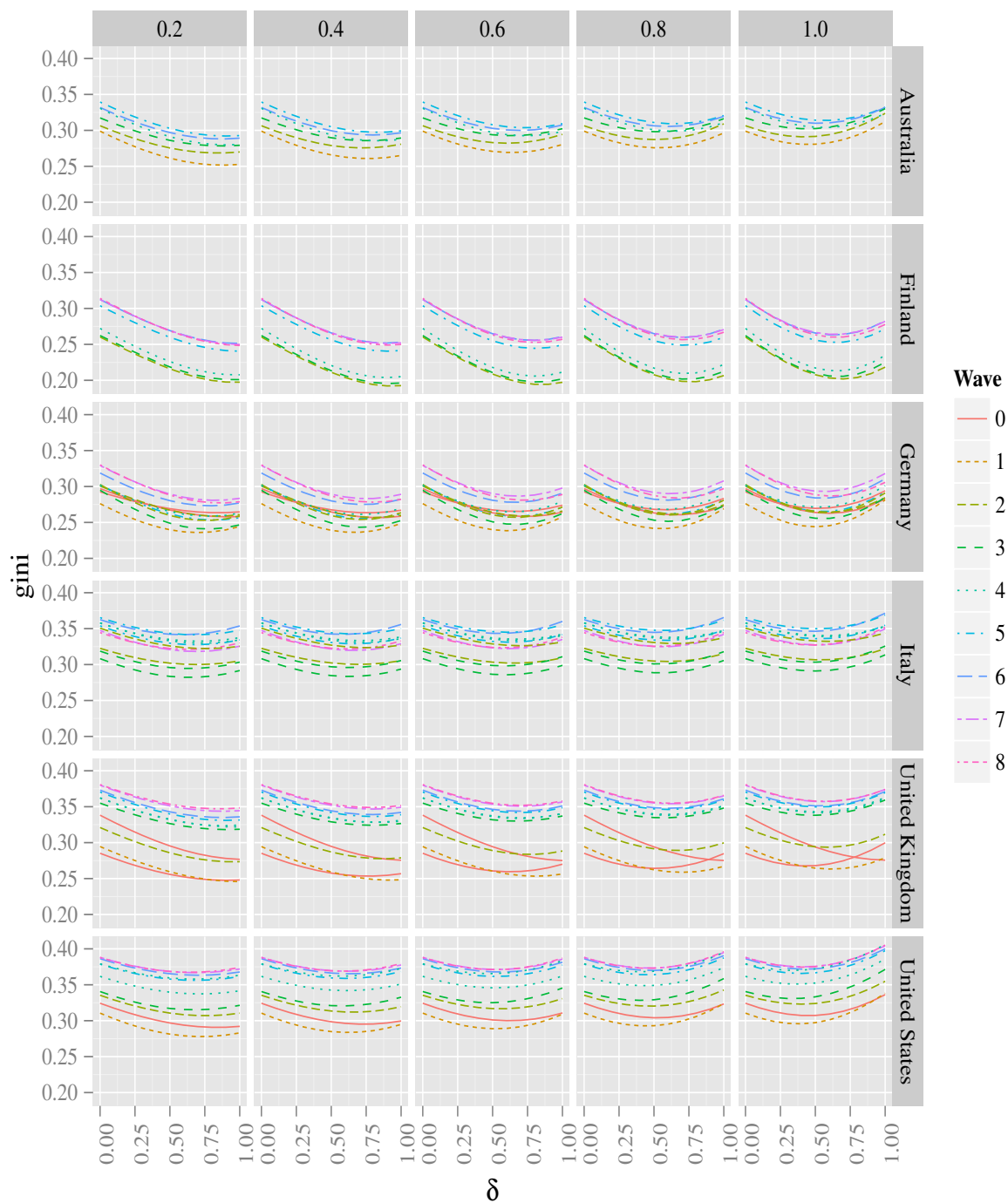


Figure 8 (cont) The Gini coefficient for different equivalence scales in selected LIS countries – all waves

B. Child parameter (γ) by selected values of adult parameter (δ)

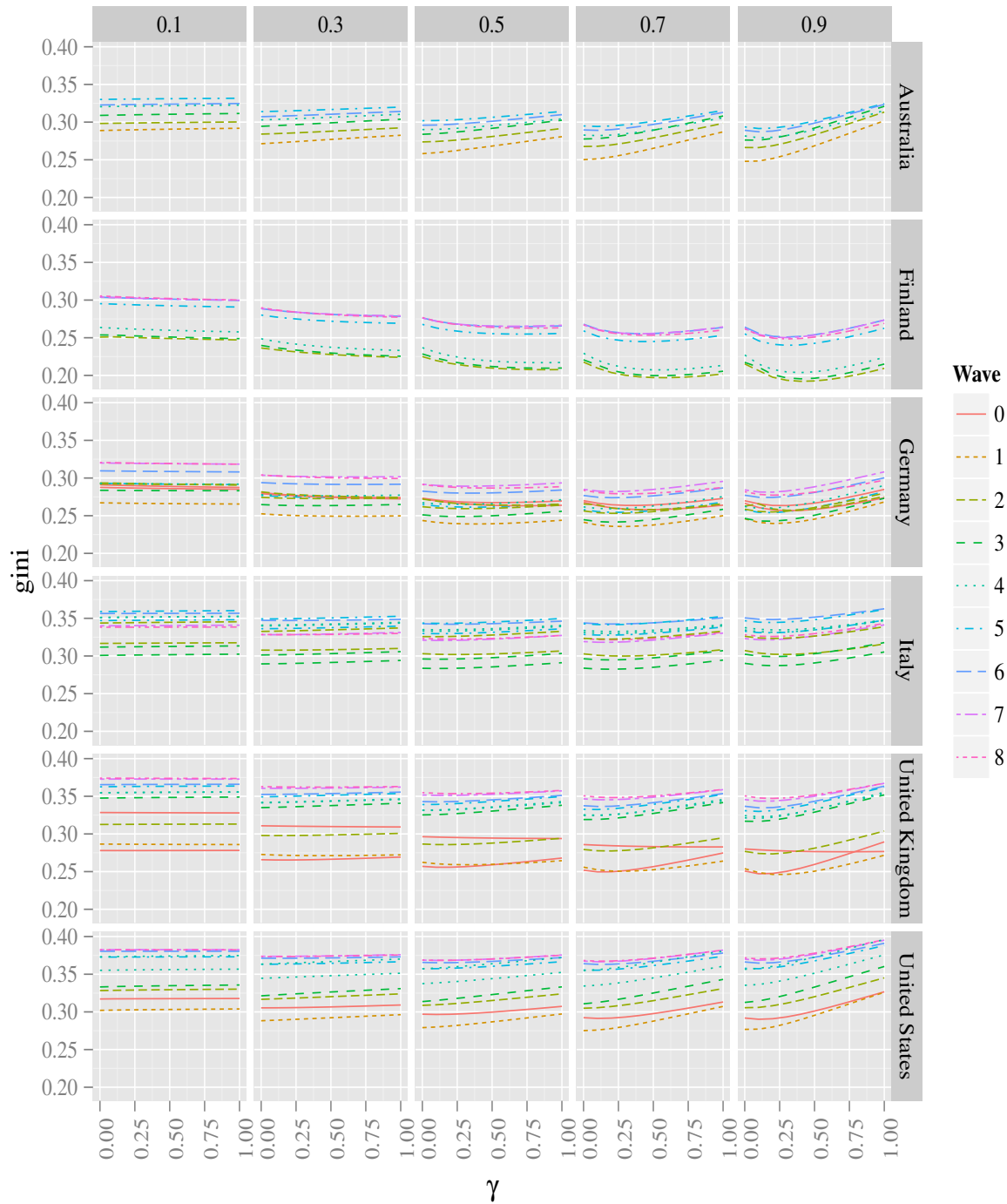


Figure 9 The relative head count poverty reate for different equivalence scales in selected LIS countries – all waves

A. Adult parameter (δ) by selected values of child parameter (γ)

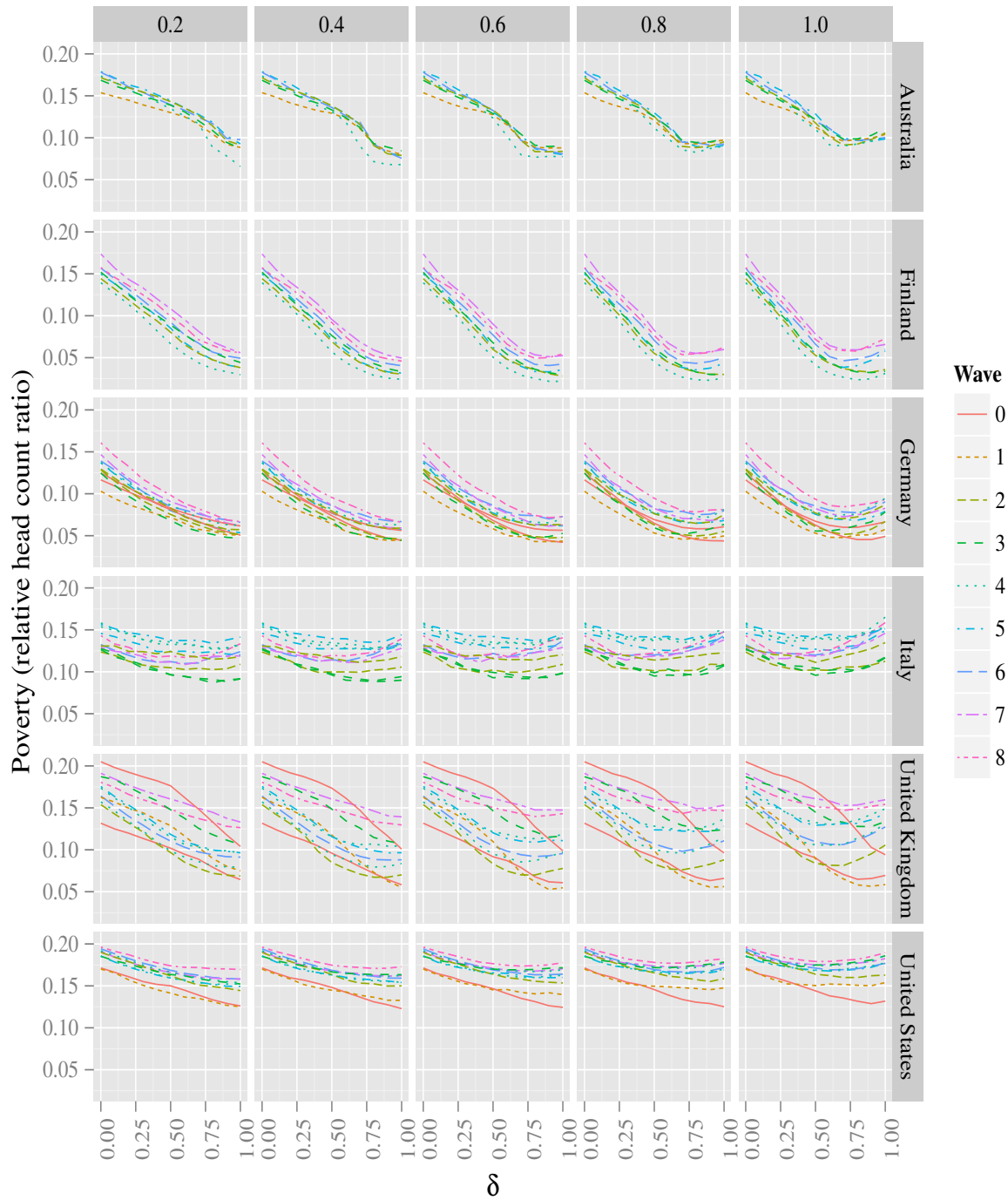


Figure 9 (cont) The relative head count poverty reate for different equivalence scales in selected LIS countries – all waves

B. Child parameter (γ) by selected values of adult parameter (δ)

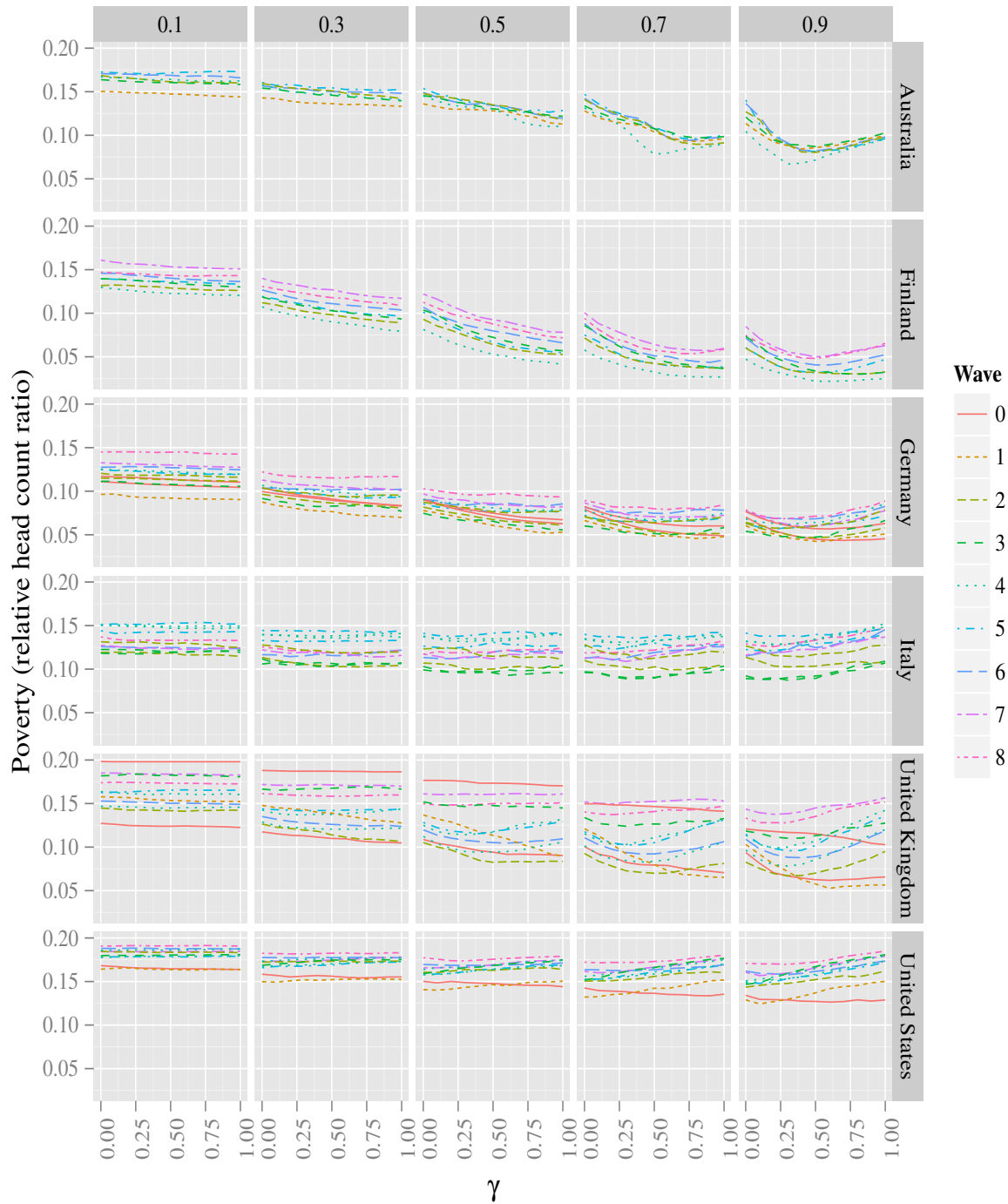


Table 1 Equivalence scale parameter – size elasticity (δ) – that minimizes the inequality or poverty index within each dataset (latest wave of LIS data)

Country	Inequality				Poverty		
	gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Austria	0.5	0.5	0.6	0.5	0.6	0.7	0.8
Australia	0.5	0.4	0.6	0.5	0.8	0.7	0.7
Belgium	0.7	0.0	0.6	0.2	0.8	0.7	0.7
Brazil	0.2	0.1	0.2	0.1	0.3	0.3	0.2
Canada	0.6	0.4	0.6	0.5	0.6	0.7	0.8
Switzerland	0.4	0.2	0.4	0.3	0.7	0.7	0.7
China	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Colombia	0.0	0.0	0.1	0.0	0.2	0.2	0.3
Czech Republic	0.7	0.5	0.7	0.6	0.5	0.5	0.5
Germany	0.6	0.5	0.6	0.6	0.7	0.7	0.8
Denmark	0.7	0.5	0.7	0.7	0.7	0.8	0.8
Estonia	0.7	0.6	0.7	0.7	0.7	0.7	0.7
Spain	0.6	0.5	0.5	0.5	0.6	0.5	0.4
Finland	0.7	0.5	0.7	0.6	0.8	0.7	0.8
France	0.5	0.4	0.5	0.4	0.5	0.6	0.6
Greece	0.6	0.6	0.6	0.6	0.6	0.5	0.5
Guatemala	0.0	0.0	0.1	0.0	0.1	0.1	0.3
Hungary	0.6	0.3	0.6	0.5	0.6	0.5	0.5
Ireland	0.5	0.4	0.6	0.5	0.6	0.6	0.8
Israel	0.2	0.0	0.3	0.1	0.0	0.3	0.3
India	0.4	0.3	0.5	0.4	0.7	0.6	0.6
Iceland	0.6	0.5	0.7	0.6	0.8	0.8	0.9
Italy	0.5	0.4	0.4	0.4	0.4	0.3	0.2
Japan	0.5	0.5	0.5	0.5	0.5	0.5	0.5
South Korea	0.5	0.3	0.6	0.5	1.0	1.0	1.0
Luxembourg	0.5	0.5	0.5	0.5	0.6	0.5	0.6
Mexico	0.3	0.0	0.3	0.2	0.9	0.5	0.4
Netherlands	0.6	0.5	0.6	0.5	0.5	0.6	0.7
Norway	0.7	0.6	0.7	0.7	0.7	0.9	1.0
Peru	0.3	0.1	0.4	0.3	0.3	0.4	0.5
Poland	0.5	0.1	0.5	0.4	0.5	0.5	0.5
Romania	0.6	0.5	0.6	0.6	0.6	0.5	0.5
Russia	0.7	0.6	0.7	0.7	0.5	0.5	0.5
Sweden	0.6	0.0	0.6	0.6	0.7	0.7	0.8
Slovenia	0.7	0.6	0.8	0.7	0.9	0.9	1.0
Slovak Republic	0.7	0.2	0.6	0.6	0.6	0.6	0.5
Taiwan	0.5	0.3	0.6	0.5	0.9	1.0	1.0
United Kingdom	0.6	0.4	0.6	0.5	0.7	0.7	0.7
United States	0.4	0.3	0.4	0.4	0.5	0.6	0.6
Uruguay	0.2	0.5	0.2	0.3	0.0	0.1	0.1
South Africa	0.0	0.0	0.0	0.0	0.5	0.3	0.5

Table 2: Equivalence scale parameter – size elasticity (δ) – that minimizes the inequality or poverty index within each dataset (all LIS data)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Australia	1981	0.4	0.4	0.5	0.5	0.7	0.7	0.6
	1985	0.4	0.4	0.5	0.4	0.7	0.7	0.6
	1989	0.4	0.4	0.5	0.4	0.7	0.7	0.6
	1995	0.6	0.5	0.6	0.5	0.7	0.7	0.7
	2001	0.6	0.5	0.6	0.6	0.9	0.7	0.6
	2003	0.5	0.4	0.6	0.5	0.8	0.7	0.7
Austria	1987	0.7	0.7	0.8	0.7	0.9	0.9	0.9
	1994	0.5	0.4	0.5	0.5	0.7	0.7	0.7
	1995	0.5	0.5	0.6	0.5	0.5	0.6	0.6
	1997	0.5	0.4	0.5	0.5	0.6	0.6	0.6
	2000	0.5	0.5	0.6	0.5	0.6	0.7	0.7
	2004	0.5	0.5	0.6	0.5	0.6	0.7	0.8
Belgium	1985	0.6	0.5	0.6	0.6	0.6	0.8	0.8
	1988	0.6	0.5	0.6	0.6	0.6	0.6	0.7
	1992	0.6	0.5	0.6	0.6	0.6	0.7	0.7
	1995	0.6	0.5	0.6	0.6	0.7	0.7	0.7
	1997	0.6	0.5	0.6	0.6	0.7	0.6	0.6
	2000	0.7	0.0	0.6	0.2	0.8	0.7	0.7
Brazil	2006	0.1	0.0	0.1	0.0	0.3	0.2	0.2
	2009	0.1	0.0	0.2	0.0	0.3	0.3	0.2
	2011	0.2	0.1	0.2	0.1	0.3	0.3	0.2
Canada	1971	0.3	0.3	0.4	0.3	0.7	0.8	0.8
	1975	0.4	0.4	0.5	0.4	0.8	0.8	0.8
	1981	0.4	0.4	0.5	0.4	0.7	0.7	0.7
	1987	0.5	0.4	0.5	0.4	0.9	0.8	0.8
	1991	0.5	0.5	0.6	0.5	0.8	0.8	0.8
	1994	0.5	0.5	0.5	0.5	0.8	0.8	0.7
	1997	0.5	0.4	0.6	0.5	0.7	0.7	0.7
	1998	0.5	0.4	0.6	0.5	0.7	0.8	0.8
	2000	0.6	0.6	0.6	0.6	0.6	0.6	0.7
	2004	0.6	0.5	0.6	0.6	0.6	0.7	0.7
	2007	0.6	0.5	0.6	0.5	0.7	0.7	0.8
	2010	0.6	0.4	0.6	0.5	0.6	0.7	0.8
China	2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Colombia	2004	0.0	0.0	0.0	0.0	0.2	0.3	0.3
	2007	0.0	0.0	0.0	0.0	0.2	0.0	0.0
	2010	0.0	0.0	0.1	0.0	0.2	0.2	0.3
Czech Republic	1992	0.8	0.7	0.7	0.7	0.7	0.7	0.7
	1996	0.7	0.6	0.7	0.7	0.7	0.6	0.6
	2004	0.7	0.5	0.7	0.6	0.5	0.5	0.5
Denmark	1987	0.7	0.6	0.7	0.7	0.9	0.9	1.0
	1992	0.7	0.5	0.7	0.7	0.8	0.9	0.9
	1995	0.7	0.5	0.7	0.7	0.7	0.8	0.8
	2000	0.7	0.5	0.7	0.7	0.7	0.8	0.8
	2004	0.7	0.5	0.7	0.7	0.7	0.7	0.8
	2007	0.7	0.6	0.7	0.7	0.7	0.8	0.8
	2010	0.7	0.5	0.7	0.7	0.7	0.8	0.8
Estonia	2000	0.7	0.5	0.7	0.6	0.7	0.7	0.6
	2004	0.8	0.7	0.8	0.8	0.8	0.8	0.8
	2007	0.8	0.7	0.8	0.7	0.9	0.9	0.9
	2010	0.7	0.6	0.7	0.7	0.7	0.7	0.7
Finland	1987	0.7	0.6	0.7	0.7	0.9	1.0	1.0
	1991	0.7	0.6	0.7	0.7	0.9	0.9	1.0
	1995	0.7	0.6	0.7	0.6	0.8	0.8	0.9
	2000	0.6	0.2	0.7	0.6	0.7	0.8	0.8
	2004	0.6	0.0	0.7	0.5	0.7	0.8	0.8
	2007	0.6	0.4	0.7	0.6	0.8	0.7	0.8
	2010	0.7	0.5	0.7	0.6	0.8	0.7	0.8
France	1978	0.4	0.1	0.5	0.4	0.7	0.7	0.7
	1984	0.5	0.3	0.5	0.5	0.7	0.7	0.7
	1989	0.5	0.3	0.5	0.4	0.6	0.6	0.6
	1994	0.5	0.3	0.5	0.4	0.6	0.6	0.6
	2000	0.5	0.4	0.5	0.4	0.5	0.6	0.7
	2005	0.5	0.4	0.5	0.4	0.5	0.6	0.6

Table 2: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Germany								
	1973	0.5	0.5	0.6	0.5	0.7	0.9	1.0
	1978	0.6	0.6	0.6	0.6	0.8	0.9	1.0
	1981	0.5	0.5	0.5	0.5	0.7	0.8	0.8
	1983	0.6	0.5	0.6	0.6	0.7	0.8	0.8
	1984	0.6	0.5	0.6	0.6	0.7	0.8	0.8
	1989	0.6	0.5	0.6	0.5	0.5	0.8	0.9
	1994	0.5	0.4	0.5	0.5	0.6	0.6	0.7
	2000	0.6	0.4	0.6	0.5	0.8	0.8	0.8
	2004	0.5	0.0	0.6	0.5	0.8	0.7	0.7
	2007	0.6	0.2	0.6	0.5	0.7	0.7	0.8
	2010	0.6	0.5	0.6	0.6	0.7	0.7	0.8
Greece								
	1995	0.5	0.5	0.6	0.5	0.7	0.8	0.9
	2000	0.6	0.5	0.7	0.6	0.7	0.6	0.7
	2004	0.7	0.6	0.7	0.6	0.6	0.7	0.7
	2007	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	2010	0.6	0.6	0.6	0.6	0.6	0.5	0.5
Guatemala								
	2006	0.0	0.0	0.1	0.0	0.1	0.1	0.3
Hungary								
	1991	0.7	0.5	0.7	0.6	0.7	0.6	0.5
	1994	0.7	0.4	0.6	0.6	0.7	0.5	0.5
	1999	0.7	0.5	0.7	0.6	0.7	0.6	0.6
	2005	0.6	0.3	0.6	0.5	0.6	0.5	0.5
Iceland								
	2004	0.6	0.4	0.6	0.6	0.7	0.8	0.9
	2007	0.7	0.7	0.7	0.7	0.7	0.7	0.8
	2010	0.6	0.5	0.7	0.6	0.8	0.8	0.9
India								
	2004	0.4	0.3	0.5	0.4	0.7	0.6	0.6
Ireland								
	1987	0.4	0.3	0.5	0.4	0.5	0.5	0.5
	1994	0.5	0.7	0.5	0.4	0.6	0.6	0.6
	1995	0.5	0.9	0.5	0.5	0.7	0.6	0.7
	1996	0.5	1.0	0.6	0.5	0.7	0.6	0.6
	2000	0.6	0.3	0.6	0.5	0.9	1.0	0.7
	2004	0.6	0.3	0.6	0.6	0.9	0.8	0.7
	2007	0.6	0.7	0.6	0.6	0.9	0.8	0.8
	2010	0.5	0.4	0.6	0.5	0.6	0.6	0.8

Table 2: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Israel	1979	0.1	0.0	0.2	0.1	0.5	0.6	0.6
	1986	0.4	0.3	0.5	0.4	0.8	0.7	0.6
	1992	0.5	0.3	0.5	0.4	0.7	0.8	0.8
	1997	0.3	0.1	0.4	0.2	0.5	0.6	0.7
	2001	0.3	0.1	0.3	0.3	0.3	0.5	0.5
	2005	0.2	0.1	0.2	0.2	0.2	0.4	0.4
	2007	0.2	0.2	0.3	0.2	0.3	0.3	0.4
	2010	0.2	0.0	0.3	0.1	0.0	0.3	0.3
Italy	1986	0.5	0.6	0.5	0.5	0.4	0.5	0.5
	1987	0.6	0.6	0.6	0.6	0.5	0.5	0.5
	1989	0.5	0.2	0.5	0.4	0.5	0.6	0.6
	1991	0.5	0.3	0.5	0.4	0.8	0.6	0.5
	1993	0.6	0.5	0.5	0.5	0.3	0.4	0.4
	1995	0.6	0.6	0.5	0.6	0.7	0.4	0.4
	1998	0.5	0.1	0.5	0.4	0.5	0.5	0.5
	2000	0.5	0.3	0.5	0.5	0.6	0.6	0.5
	2004	0.5	0.2	0.4	0.4	0.5	0.3	0.3
	2008	0.5	0.5	0.5	0.5	0.2	0.3	0.3
	2010	0.5	0.4	0.4	0.4	0.4	0.3	0.2
Japan	2008	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Luxembourg	1985	0.5	0.5	0.5	0.5	0.7	0.6
1991		0.5	0.4	0.5	0.5	0.6	0.7	0.7
1994		0.5	0.4	0.5	0.5	0.6	0.6	0.7
1997		0.5	0.3	0.5	0.4	0.5	0.5	0.5
2000		0.4	0.3	0.4	0.4	0.5	0.5	0.5
2004		0.5	0.4	0.5	0.4	0.2	0.5	0.6
2007		0.5	0.4	0.5	0.4	0.6	0.5	0.6
2010		0.5	0.5	0.5	0.5	0.6	0.5	0.6

Table 2: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Mexico								
	1984	0.2	0.0	0.2	0.1	0.3	0.5	0.5
	1989	0.0	0.0	0.0	0.0	0.6	0.4	0.4
	1992	0.0	0.0	0.0	0.0	0.5	0.4	0.4
	1994	0.0	0.0	0.0	0.0	0.0	0.5	0.5
	1996	0.0	0.0	0.0	0.0	0.0	0.2	0.2
	1998	0.0	0.0	0.0	0.0	0.1	0.2	0.2
	2000	0.0	0.0	0.1	0.0	0.4	0.2	0.2
	2002	0.0	0.0	0.1	0.0	0.3	0.5	0.5
	2004	0.0	0.0	0.1	0.0	0.5	0.5	0.5
	2008	0.3	0.0	0.3	0.1	0.6	0.4	0.4
	2010	0.3	0.0	0.3	0.2	0.9	0.5	0.4
Netherlands								
	1983	0.5	0.5	0.5	0.5	0.8	0.5	0.5
	1987	0.5	0.5	0.5	0.5	0.6	0.6	0.7
	1990	0.4	0.3	0.5	0.4	0.7	0.8	0.8
	1993	0.4	0.4	0.5	0.4	0.8	0.7	0.7
	1999	0.4	0.4	0.5	0.4	0.7	0.7	0.7
	2004	0.5	0.2	0.5	0.4	0.6	0.6	0.6
	2007	0.6	0.6	0.6	0.6	0.5	0.6	0.7
	2010	0.6	0.5	0.6	0.5	0.5	0.6	0.7
Norway								
	1979	0.5	0.5	0.5	0.5	0.7	0.8	0.9
	1986	0.7	0.6	0.7	0.7	0.7	1.0	1.0
	1991	0.6	0.7	0.7	0.7	0.7	0.8	1.0
	1995	0.6	0.5	0.7	0.6	0.7	0.9	0.9
	2000	0.7	0.9	0.7	0.7	0.8	0.9	1.0
	2004	0.6	0.0	0.7	0.6	0.7	0.8	0.9
	2007	0.6	0.6	0.7	0.6	0.8	0.9	0.9
	2010	0.7	0.6	0.7	0.7	0.7	0.9	1.0
Peru								
	2004	0.3	0.1	0.4	0.3	0.3	0.4	0.5
Poland								
	1986	0.7	0.7	0.7	0.7	0.7	0.6	0.6
	1992	0.5	0.4	0.5	0.5	0.6	0.6	0.5
	1995	0.4	0.6	0.4	0.4	0.4	0.3	0.3
	1999	0.4	0.9	0.4	0.5	0.4	0.4	0.4
	2004	0.4	0.6	0.4	0.4	0.4	0.4	0.4
	2007	0.5	0.4	0.5	0.5	0.5	0.5	0.5
	2010	0.5	0.1	0.5	0.4	0.5	0.5	0.5

Table 2: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Romania	1995	0.5	0.2	0.5	0.5	0.5	0.5	0.5
	1997	0.6	0.5	0.6	0.6	0.6	0.5	0.5
Russia	2000	0.7	0.0	0.7	0.5	0.7	0.7	0.7
	2004	0.8	0.5	0.8	0.7	0.7	0.7	0.7
	2007	0.8	0.6	0.7	0.7	0.8	0.7	0.7
	2010	0.7	0.6	0.7	0.7	0.5	0.5	0.5
Slovak Republic	1992	0.7	0.7	0.7	0.7	0.6	0.7	0.7
	1996	0.7	0.6	0.6	0.6	0.6	0.6	0.5
	2004	0.7	0.6	0.7	0.7	0.6	0.6	0.6
	2007	0.8	0.6	0.7	0.7	0.6	0.6	0.6
	2010	0.7	0.2	0.6	0.6	0.6	0.6	0.5
Slovenia	1997	0.7	0.6	0.7	0.6	0.8	0.9	0.9
	1999	0.7	0.6	0.7	0.7	0.8	0.8	1.0
	2004	0.7	0.6	0.7	0.7	0.8	1.0	1.0
	2007	0.7	0.6	0.7	0.7	0.8	0.9	0.9
	2010	0.7	0.6	0.8	0.7	0.9	0.9	1.0
South Africa	2008	0.0	0.0	0.0	0.0	0.4	0.3	0.6
	2010	0.0	0.0	0.0	0.0	0.5	0.3	0.5
South Korea	2006	0.5	0.3	0.6	0.5	1.0	1.0	1.0
Spain	1980	0.5	0.1	0.5	0.4	0.7	0.7	0.7
	1985	0.4	0.2	0.4	0.3	0.5	0.5	0.5
	1990	0.5	0.2	0.5	0.5	0.7	0.7	0.6
	1995	0.6	0.6	0.6	0.6	0.6	0.6	0.5
	2000	0.7	0.5	0.7	0.6	1.0	0.8	0.7
	2004	0.5	0.4	0.6	0.5	0.9	0.8	0.7
	2007	0.6	0.5	0.6	0.5	0.7	0.7	0.7
	2010	0.6	0.5	0.5	0.5	0.6	0.5	0.4

Table 2: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Sweden	1967	0.5	0.5	0.5	0.5	0.7	0.7	0.6
	1975	0.6	0.6	0.7	0.6	0.8	0.9	1.0
	1981	0.6	0.6	0.6	0.6	0.6	0.6	0.8
	1987	0.7	0.6	0.7	0.7	0.9	1.0	1.0
	1992	0.6	0.6	0.7	0.6	0.7	0.9	1.0
	1995	0.6	0.5	0.7	0.6	0.7	0.9	1.0
	2000	0.7	1.0	0.7	0.7	0.7	0.8	0.9
	2005	0.6	0.0	0.6	0.6	0.7	0.7	0.8
Switzerland	1982	0.5	0.1	0.5	0.5	0.7	0.7	0.9
	1992	0.4	0.7	0.4	0.4	0.5	0.5	0.4
	2000	0.3	0.0	0.4	0.3	0.6	0.5	0.5
	2002	0.4	0.4	0.4	0.4	0.6	0.6	0.6
	2004	0.4	0.2	0.4	0.3	0.7	0.7	0.7
	Taiwan	1981	0.2	0.1	0.3	0.2	0.6	0.6
1986		0.4	0.2	0.4	0.3	0.6	0.7	0.8
1991		0.3	0.0	0.4	0.3	0.8	0.8	0.8
1995		0.5	0.3	0.6	0.4	0.8	1.0	1.0
1997		0.5	0.4	0.5	0.5	0.8	0.8	0.8
2000		0.5	0.4	0.6	0.5	0.9	0.9	0.9
2005		0.5	0.3	0.6	0.5	0.9	1.0	1.0
2007		0.6	0.4	0.6	0.5	0.9	1.0	1.0
2010		0.5	0.3	0.6	0.5	0.9	1.0	1.0
United Kingdom	1969	1.0	0.9	1.0	1.0	1.0	1.0	1.0
	1974	0.4	0.3	0.5	0.4	0.8	0.7	0.7
	1979	0.6	0.6	0.6	0.6	0.9	0.8	0.7
	1986	0.6	0.4	0.6	0.5	0.7	0.5	0.5
	1991	0.5	0.0	0.5	0.4	0.9	0.7	0.7
	1994	0.5	0.4	0.5	0.5	0.6	0.6	0.6
	1995	0.5	0.4	0.5	0.5	0.6	0.5	0.5
	1999	0.5	0.1	0.5	0.5	0.5	0.6	0.6
	2004	0.5	0.4	0.5	0.5	0.7	0.7	0.7
	2007	0.6	0.3	0.6	0.5	0.7	0.7	0.7
	2010	0.6	0.4	0.6	0.5	0.7	0.7	0.7

Table 2: *(continued)*

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
United States								
	1974	0.4	0.3	0.5	0.4	0.9	0.9	0.9
	1979	0.4	0.3	0.4	0.4	0.9	0.6	0.6
	1986	0.4	0.3	0.4	0.4	0.8	0.7	0.6
	1991	0.3	0.3	0.4	0.3	0.4	0.5	0.5
	1994	0.4	0.3	0.4	0.3	0.6	0.5	0.5
	1997	0.3	0.2	0.4	0.3	0.6	0.6	0.6
	2000	0.4	0.3	0.4	0.4	0.6	0.6	0.6
	2004	0.4	0.3	0.5	0.4	0.6	0.7	0.7
	2007	0.4	0.3	0.5	0.4	0.5	0.6	0.6
	2010	0.4	0.3	0.4	0.4	0.5	0.6	0.6
Uruguay								
	2004	0.2	0.5	0.2	0.3	0.0	0.1	0.1

Table 3 Equivalence scale parameters – child, adult (γ, δ) – that minimize the inequality or poverty index within each dataset (latest wave of LIS data)

Country	Inequality				Poverty		
	gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Austria	0.1, 0.8	0.1, 0.7	0.2, 0.8	0.1, 0.7	0.5, 0.9	0.5, 1.0	0.5, 1.0
Australia	0.1, 0.9	0.2, 0.7	0.2, 0.9	0.1, 0.8	0.4, 1.0	0.4, 1.0	0.4, 1.0
Belgium	0.3, 0.9	0.0, 1.0	0.3, 0.9	0.0, 1.0	0.6, 1.0	0.6, 0.9	0.5, 0.9
Brazil	0.0, 0.7	0.0, 0.4	0.0, 0.7	0.0, 0.6	0.0, 0.8	0.0, 0.9	0.0, 1.0
Canada	0.2, 0.8	0.1, 0.6	0.3, 0.8	0.2, 0.8	0.1, 1.0	0.3, 1.0	0.3, 1.0
Switzerland	0.1, 0.6	0.0, 0.5	0.1, 0.7	0.0, 0.6	0.4, 1.0	0.5, 0.8	0.4, 1.0
China	0.0, 0.0	0.0, 0.0	0.0, 0.0	0.0, 0.0	0.0, 0.3	0.0, 0.0	0.0, 0.2
Colombia	0.0, 0.6	0.0, 1.0	0.0, 0.6	0.0, 0.6	0.0, 0.5	0.0, 0.5	0.0, 0.9
Czech Republic	0.2, 0.9	0.2, 0.6	0.2, 0.9	0.2, 0.8	0.2, 0.8	0.2, 0.9	0.2, 0.9
Germany	0.2, 0.9	0.1, 0.9	0.2, 0.9	0.2, 0.9	0.3, 1.0	0.4, 1.0	0.4, 1.0
Denmark	0.3, 1.0	0.3, 0.8	0.3, 1.0	0.3, 1.0	0.6, 0.9	0.5, 1.0	0.6, 1.0
Estonia	0.8, 0.8	1.0, 0.6	0.7, 0.8	0.9, 0.7	0.1, 0.9	0.1, 1.0	0.1, 1.0
Spain	0.4, 0.7	0.4, 0.6	0.3, 0.7	0.4, 0.6	0.5, 0.8	0.0, 0.8	0.0, 0.8
Finland	0.3, 1.0	0.3, 0.7	0.3, 1.0	0.3, 0.9	0.4, 1.0	0.5, 1.0	0.5, 1.0
France	0.2, 0.7	0.3, 0.7	0.2, 0.7	0.2, 0.7	0.4, 0.8	0.4, 0.8	0.4, 0.8
Greece	0.5, 0.7	0.4, 0.8	0.5, 0.7	0.4, 0.8	0.2, 0.7	0.3, 0.7	0.3, 0.7
Guatemala	0.0, 0.6	0.0, 0.7	0.0, 0.6	0.0, 0.6	0.0, 0.5	0.1, 0.7	0.1, 0.7
Hungary	0.4, 0.7	0.0, 0.4	0.4, 0.7	0.3, 0.7	0.1, 0.7	0.1, 0.8	0.2, 0.7
Ireland	0.3, 0.7	0.4, 0.6	0.3, 0.8	0.3, 0.7	0.6, 0.8	0.5, 1.0	0.5, 1.0
Israel	0.0, 0.5	0.0, 0.0	0.0, 0.5	0.0, 0.4	0.0, 0.9	0.0, 0.7	0.0, 0.7
India	0.0, 0.7	0.0, 0.7	0.0, 0.7	0.0, 0.7	0.1, 0.7	0.2, 0.7	0.2, 0.7
Iceland	0.3, 0.9	0.2, 0.9	0.2, 1.0	0.2, 0.9	0.4, 1.0	0.4, 1.0	0.4, 1.0
Italy	0.2, 0.6	0.1, 0.5	0.2, 0.6	0.2, 0.6	0.3, 0.4	0.0, 0.6	0.0, 0.6
Japan	0.1, 0.6	0.0, 0.7	0.1, 0.6	0.0, 0.6	0.9, 0.5	0.9, 0.6	0.9, 0.6
South Korea	0.5, 0.6	0.3, 0.5	0.6, 0.7	0.5, 0.6	1.0, 1.0	1.0, 1.0	1.0, 1.0
Luxembourg	0.3, 0.6	0.4, 0.6	0.2, 0.7	0.3, 0.6	0.2, 0.8	0.2, 0.8	0.2, 0.9
Mexico	0.0, 0.6	0.0, 0.2	0.0, 0.6	0.0, 0.5	0.0, 0.7	0.1, 1.0	0.0, 0.8
Netherlands	0.2, 0.9	0.3, 0.7	0.2, 0.9	0.3, 0.8	0.5, 0.6	0.4, 1.0	0.4, 1.0
Norway	0.3, 0.9	0.2, 1.0	0.3, 1.0	0.2, 1.0	0.4, 1.0	0.5, 1.0	0.6, 1.0
Peru	0.0, 0.7	0.0, 0.3	0.0, 0.8	0.0, 0.6	0.0, 1.0	0.0, 1.0	0.0, 1.0
Poland	0.5, 0.5	1.0, 0.1	0.5, 0.5	0.6, 0.5	0.2, 0.7	0.3, 0.7	0.3, 0.6
Romania	0.4, 0.7	0.2, 0.7	0.3, 0.7	0.3, 0.7	0.3, 0.8	0.2, 0.7	0.2, 0.7
Russia	0.3, 0.8	1.0, 0.6	0.2, 0.8	0.4, 0.8	0.3, 0.8	0.0, 0.7	0.0, 0.7
Sweden	0.2, 1.0	0.0, 1.0	0.2, 1.0	0.2, 1.0	0.5, 0.9	0.4, 1.0	0.4, 1.0
Slovenia	0.5, 0.8	0.5, 0.7	0.5, 0.9	0.5, 0.8	0.6, 1.0	0.5, 1.0	0.9, 1.0
Slovak Republic	0.3, 0.8	0.0, 0.3	0.2, 0.8	0.2, 0.7	0.3, 0.6	0.0, 0.8	0.0, 0.8
Taiwan	0.5, 0.6	0.2, 0.3	0.5, 0.7	0.5, 0.5	0.6, 1.0	0.6, 1.0	0.6, 1.0
United Kingdom	0.2, 0.9	0.3, 0.6	0.2, 0.9	0.2, 0.8	0.1, 1.0	0.3, 1.0	0.3, 1.0
United States	0.1, 0.7	0.2, 0.4	0.1, 0.7	0.1, 0.6	0.2, 1.0	0.1, 0.9	0.0, 1.0
Uruguay	0.0, 0.5	0.5, 0.6	0.0, 0.5	0.0, 0.5	0.0, 0.6	0.0, 0.7	0.0, 0.7
South Africa	0.0, 0.1	0.0, 0.0	0.0, 0.2	0.0, 0.0	0.3, 0.6	0.1, 0.4	0.2, 0.6

Table 4: Equivalence scale parameters – child, adult (γ, δ)
– that minimize the inequality or poverty index within each
dataset (all LIS data)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Australia	1981	0.0, 0.9	0.0, 0.8	0.1, 1.0	0.0, 0.9	0.4, 1.0	0.2, 1.0	0.2, 1.0
	1985	0.1, 0.9	0.1, 0.8	0.1, 1.0	0.1, 0.9	0.4, 1.0	0.3, 1.0	0.2, 1.0
	1989	0.1, 0.9	0.0, 0.8	0.1, 1.0	0.1, 0.9	0.3, 1.0	0.2, 1.0	0.2, 1.0
	1995	0.1, 0.9	0.1, 0.7	0.2, 0.9	0.1, 0.9	0.2, 1.0	0.3, 1.0	0.3, 1.0
	2001	0.1, 0.9	0.1, 0.9	0.2, 0.9	0.1, 0.9	0.4, 1.0	0.4, 1.0	0.4, 1.0
	2003	0.1, 0.9	0.2, 0.7	0.2, 0.9	0.1, 0.8	0.4, 1.0	0.4, 1.0	0.4, 1.0
Austria	1987	0.3, 1.0	0.3, 0.9	0.3, 1.0	0.3, 1.0	0.5, 1.0	0.4, 1.0	0.4, 1.0
	1994	0.2, 0.7	0.2, 0.5	0.2, 0.7	0.2, 0.6	0.3, 0.9	0.4, 0.9	0.6, 0.9
	1995	0.1, 0.8	0.1, 0.7	0.1, 0.9	0.1, 0.8	0.2, 1.0	0.1, 1.0	0.1, 1.0
	1997	0.1, 0.7	0.1, 0.6	0.1, 0.7	0.1, 0.7	0.5, 0.9	0.1, 0.9	0.1, 0.9
	2000	0.1, 0.7	0.1, 0.7	0.1, 0.8	0.1, 0.7	0.3, 1.0	0.2, 1.0	0.2, 1.0
	2004	0.1, 0.8	0.1, 0.7	0.2, 0.8	0.1, 0.7	0.5, 0.9	0.5, 1.0	0.5, 1.0
Belgium	1985	0.5, 0.7	0.5, 0.7	0.5, 0.7	0.5, 0.7	0.5, 1.0	0.7, 0.8	0.8, 1.0
	1988	0.5, 0.8	0.3, 0.7	0.5, 0.8	0.4, 0.7	0.6, 0.8	0.7, 0.8	0.7, 0.9
	1992	0.4, 0.8	0.4, 0.7	0.4, 0.8	0.4, 0.8	0.4, 0.9	0.4, 0.9	0.7, 0.8
	1995	0.4, 0.9	0.3, 0.7	0.4, 0.9	0.4, 0.8	0.1, 1.0	0.4, 0.8	0.6, 0.9
	1997	0.4, 0.8	0.4, 0.7	0.4, 0.8	0.4, 0.8	0.5, 0.9	0.8, 0.7	0.8, 0.7
	2000	0.3, 0.9	0.0, 1.0	0.3, 0.9	0.0, 1.0	0.6, 1.0	0.6, 0.9	0.5, 0.9
Brazil	2006	0.0, 0.6	0.0, 0.4	0.0, 0.7	0.0, 0.5	0.0, 0.7	0.0, 0.8	0.0, 0.8
	2009	0.0, 0.7	0.0, 0.4	0.0, 0.7	0.0, 0.6	0.0, 0.9	0.0, 0.9	0.0, 0.9
	2011	0.0, 0.7	0.0, 0.4	0.0, 0.7	0.0, 0.6	0.0, 0.8	0.0, 0.9	0.0, 1.0
Canada	1971	0.0, 0.7	0.1, 0.7	0.1, 0.9	0.1, 0.7	0.3, 1.0	0.3, 1.0	0.3, 1.0
	1975	0.1, 0.8	0.1, 0.7	0.1, 0.9	0.1, 0.8	0.4, 1.0	0.3, 1.0	0.3, 1.0
	1981	0.1, 0.7	0.1, 0.6	0.1, 0.8	0.1, 0.7	0.3, 1.0	0.3, 1.0	0.3, 1.0
	1987	0.1, 0.8	0.1, 0.6	0.2, 0.8	0.1, 0.7	0.4, 1.0	0.3, 1.0	0.3, 1.0
	1991	0.2, 0.8	0.2, 0.7	0.2, 0.9	0.2, 0.8	0.3, 1.0	0.3, 1.0	0.3, 1.0
	1994	0.1, 0.8	0.1, 0.7	0.1, 0.9	0.1, 0.8	0.2, 1.0	0.2, 1.0	0.2, 1.0
	1997	0.1, 0.8	0.1, 0.7	0.2, 0.9	0.1, 0.8	0.2, 1.0	0.2, 1.0	0.3, 1.0
	1998	0.2, 0.8	0.2, 0.6	0.2, 0.9	0.2, 0.8	0.3, 1.0	0.3, 1.0	0.3, 1.0
	2000	0.2, 0.9	0.3, 0.8	0.2, 0.9	0.2, 0.9	0.2, 1.0	0.3, 1.0	0.3, 1.0
	2004	0.2, 0.8	0.3, 0.7	0.2, 0.9	0.2, 0.8	0.2, 1.0	0.2, 1.0	0.3, 1.0
	2007	0.2, 0.8	0.3, 0.7	0.2, 0.8	0.2, 0.8	0.2, 1.0	0.2, 1.0	0.3, 1.0
	2010	0.2, 0.8	0.1, 0.6	0.3, 0.8	0.2, 0.8	0.1, 1.0	0.3, 1.0	0.3, 1.0
China	2002	0.0, 0.0	0.0, 0.0	0.0, 0.0	0.0, 0.0	0.0, 0.3	0.0, 0.0	0.0, 0.2

Table 4: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Colombia	2004	0.0, 0.4	0.0, 0.0	0.0, 0.5	0.0, 0.3	0.0, 0.9	0.0, 0.9	0.0, 0.9
	2007	0.0, 0.4	0.0, 0.0	0.0, 0.4	0.0, 0.2	0.0, 0.7	0.0, 0.6	0.0, 0.6
	2010	0.0, 0.6	0.0, 1.0	0.0, 0.6	0.0, 0.6	0.0, 0.5	0.0, 0.5	0.0, 0.9
Czech Republic	1992	0.4, 1.0	0.5, 0.9	0.4, 1.0	0.4, 1.0	0.3, 1.0	0.3, 1.0	0.2, 1.0
	1996	0.3, 1.0	0.4, 0.7	0.3, 0.9	0.3, 0.9	0.3, 0.9	0.2, 1.0	0.2, 0.9
	2004	0.2, 0.9	0.2, 0.6	0.2, 0.9	0.2, 0.8	0.2, 0.8	0.2, 0.9	0.2, 0.9
Denmark	1987	0.5, 0.9	0.7, 0.7	0.5, 0.9	0.6, 0.8	0.8, 1.0	0.7, 1.0	0.7, 1.0
	1992	0.3, 1.0	0.1, 0.8	0.3, 1.0	0.2, 1.0	0.5, 0.9	0.5, 1.0	0.5, 1.0
	1995	0.3, 1.0	0.2, 0.8	0.3, 1.0	0.3, 1.0	0.6, 0.9	0.5, 1.0	0.5, 1.0
	2000	0.3, 1.0	0.2, 0.9	0.3, 1.0	0.2, 1.0	0.6, 0.9	0.5, 1.0	0.5, 1.0
	2004	0.3, 1.0	0.2, 0.8	0.3, 1.0	0.2, 1.0	0.5, 0.9	0.5, 1.0	0.5, 1.0
	2007	0.3, 1.0	0.2, 1.0	0.3, 1.0	0.2, 1.0	0.7, 0.9	0.5, 1.0	0.5, 1.0
	2010	0.3, 1.0	0.3, 0.8	0.3, 1.0	0.3, 1.0	0.6, 0.9	0.5, 1.0	0.6, 1.0
Estonia	2000	0.6, 0.8	0.3, 0.7	0.5, 0.8	0.5, 0.8	0.6, 0.8	0.6, 0.8	0.6, 0.8
	2004	0.4, 1.0	0.7, 0.8	0.4, 1.0	0.5, 0.9	0.3, 0.9	0.1, 1.0	0.1, 1.0
	2007	0.5, 0.9	0.7, 0.7	0.5, 0.9	0.6, 0.8	0.3, 1.0	0.3, 1.0	0.3, 1.0
	2010	0.8, 0.8	1.0, 0.6	0.7, 0.8	0.9, 0.7	0.1, 0.9	0.1, 1.0	0.1, 1.0
Finland	1987	0.4, 0.9	0.4, 0.8	0.4, 1.0	0.4, 0.9	0.6, 1.0	0.6, 1.0	0.6, 1.0
	1991	0.4, 0.9	0.4, 0.9	0.4, 1.0	0.4, 0.9	0.7, 1.0	0.6, 1.0	0.6, 1.0
	1995	0.4, 0.9	0.3, 0.9	0.4, 0.9	0.4, 0.9	0.6, 1.0	0.6, 1.0	0.6, 1.0
	2000	0.3, 1.0	0.0, 1.0	0.3, 1.0	0.3, 0.9	0.5, 0.9	0.4, 1.0	0.5, 1.0
	2004	0.3, 0.9	0.0, 0.4	0.3, 1.0	0.2, 0.9	0.5, 1.0	0.5, 1.0	0.5, 1.0
	2007	0.2, 1.0	0.1, 0.9	0.3, 1.0	0.2, 1.0	0.5, 1.0	0.4, 1.0	0.4, 1.0
	2010	0.3, 1.0	0.3, 0.7	0.3, 1.0	0.3, 0.9	0.4, 1.0	0.5, 1.0	0.5, 1.0
France	1978	0.3, 0.6	0.1, 0.3	0.4, 0.7	0.3, 0.6	1.0, 0.7	1.0, 0.7	1.0, 0.7
	1984	0.4, 0.7	0.5, 0.4	0.5, 0.7	0.5, 0.6	0.8, 0.8	1.0, 0.7	1.0, 0.7
	1989	0.3, 0.7	0.1, 0.5	0.3, 0.7	0.3, 0.6	0.4, 0.8	0.5, 0.8	0.5, 0.8
	1994	0.3, 0.7	0.1, 0.5	0.3, 0.7	0.3, 0.6	0.5, 0.8	0.6, 0.7	0.7, 0.7
	2000	0.3, 0.7	0.2, 0.6	0.3, 0.7	0.3, 0.7	0.4, 0.9	0.4, 0.8	0.5, 0.8
	2005	0.2, 0.7	0.3, 0.7	0.2, 0.7	0.2, 0.7	0.4, 0.8	0.4, 0.8	0.4, 0.8

Table 4: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Germany								
	1973	0.3, 0.8	0.3, 0.8	0.3, 0.9	0.3, 0.8	0.5, 1.0	0.6, 1.0	0.8, 1.0
	1978	0.3, 0.9	0.4, 0.9	0.4, 0.9	0.3, 0.9	0.6, 1.0	0.6, 1.0	0.8, 1.0
	1981	0.3, 0.7	0.3, 0.6	0.3, 0.7	0.3, 0.7	0.5, 1.0	1.0, 0.8	1.0, 0.8
	1983	0.4, 0.8	0.3, 0.7	0.4, 0.8	0.3, 0.8	0.4, 1.0	0.5, 1.0	0.5, 1.0
	1984	0.2, 0.8	0.6, 0.6	0.2, 0.8	0.3, 0.7	0.3, 1.0	0.4, 1.0	0.4, 1.0
	1989	0.2, 0.8	0.2, 0.7	0.2, 0.8	0.2, 0.8	0.4, 1.0	0.4, 1.0	0.5, 1.0
	1994	0.2, 0.8	0.2, 0.6	0.2, 0.8	0.2, 0.7	0.3, 1.0	0.2, 1.0	0.2, 1.0
	2000	0.2, 0.8	0.1, 0.7	0.2, 0.9	0.2, 0.8	0.2, 1.0	0.3, 1.0	0.3, 1.0
	2004	0.2, 0.8	0.0, 1.0	0.2, 0.8	0.1, 0.8	0.2, 1.0	0.3, 1.0	0.3, 1.0
	2007	0.2, 0.8	0.0, 0.7	0.2, 0.9	0.1, 0.8	0.3, 1.0	0.4, 1.0	0.4, 1.0
	2010	0.2, 0.9	0.1, 0.9	0.2, 0.9	0.2, 0.9	0.3, 1.0	0.4, 1.0	0.4, 1.0
Greece								
	1995	0.7, 0.6	1.0, 0.5	0.9, 0.6	1.0, 0.5	0.9, 0.7	1.0, 0.8	0.9, 1.0
	2000	0.7, 0.7	0.5, 0.6	0.7, 0.7	0.6, 0.7	0.5, 0.9	0.5, 0.9	0.5, 0.9
	2004	0.6, 0.7	0.5, 0.7	0.5, 0.8	0.6, 0.7	0.4, 1.0	0.5, 0.9	0.4, 0.9
	2007	0.6, 0.7	1.0, 0.6	0.6, 0.7	0.7, 0.7	0.2, 0.8	0.2, 0.8	0.1, 0.9
	2010	0.5, 0.7	0.4, 0.8	0.5, 0.7	0.4, 0.8	0.2, 0.7	0.3, 0.7	0.3, 0.7
Guatemala								
	2006	0.0, 0.6	0.0, 0.7	0.0, 0.6	0.0, 0.6	0.0, 0.5	0.1, 0.7	0.1, 0.7
Hungary								
	1991	0.6, 0.8	0.6, 0.6	0.6, 0.8	0.6, 0.7	0.8, 0.7	1.0, 0.6	0.1, 0.7
	1994	0.5, 0.8	0.3, 0.6	0.5, 0.8	0.5, 0.7	0.6, 0.8	0.6, 0.6	0.4, 0.6
	1999	0.5, 0.8	0.6, 0.6	0.4, 0.8	0.5, 0.7	0.2, 0.9	0.0, 0.9	0.2, 0.8
	2005	0.4, 0.7	0.0, 0.4	0.4, 0.7	0.3, 0.7	0.1, 0.7	0.1, 0.8	0.2, 0.7
Iceland								
	2004	0.3, 0.9	0.3, 0.6	0.3, 0.9	0.3, 0.8	0.4, 1.0	0.2, 1.0	0.5, 1.0
	2007	0.2, 1.0	0.3, 1.0	0.2, 1.0	0.2, 1.0	0.2, 1.0	0.3, 1.0	0.4, 1.0
	2010	0.3, 0.9	0.2, 0.9	0.2, 1.0	0.2, 0.9	0.4, 1.0	0.4, 1.0	0.4, 1.0
India								
	2004	0.0, 0.7	0.0, 0.7	0.0, 0.7	0.0, 0.7	0.1, 0.7	0.2, 0.7	0.2, 0.7
Ireland								
	1987	0.1, 0.8	0.0, 0.6	0.1, 0.9	0.1, 0.8	0.3, 1.0	0.2, 1.0	0.2, 1.0
	1994	0.2, 0.7	0.1, 1.0	0.2, 0.8	0.2, 0.7	0.2, 1.0	0.2, 1.0	0.2, 1.0
	1995	0.2, 0.7	0.2, 1.0	0.3, 0.8	0.3, 0.8	0.2, 1.0	0.2, 0.9	0.2, 1.0
	1996	0.3, 0.7	0.1, 1.0	0.3, 0.8	0.3, 0.8	0.2, 1.0	0.2, 1.0	0.2, 1.0
	2000	0.2, 0.8	0.2, 0.4	0.3, 0.9	0.2, 0.7	0.5, 1.0	0.3, 1.0	0.3, 1.0
	2004	0.2, 0.9	1.0, 0.3	0.2, 0.9	0.2, 0.8	0.3, 1.0	0.3, 1.0	0.4, 0.9
	2007	0.3, 0.8	1.0, 0.7	0.4, 0.8	0.5, 0.8	0.4, 1.0	0.5, 0.8	0.5, 0.8
	2010	0.3, 0.7	0.4, 0.6	0.3, 0.8	0.3, 0.7	0.6, 0.8	0.5, 1.0	0.5, 1.0

Table 4: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Israel	1979	0.0, 0.3	0.0, 0.1	0.2, 0.4	0.0, 0.3	0.5, 0.6	1.0, 0.6	1.0, 0.6
	1986	0.4, 0.6	0.3, 0.4	0.5, 0.6	0.4, 0.6	0.5, 0.8	0.7, 0.8	1.0, 0.6
	1992	0.5, 0.6	0.5, 0.3	0.5, 0.6	0.5, 0.5	0.4, 0.8	0.5, 0.9	0.5, 0.9
	1997	0.1, 0.4	0.0, 0.2	0.3, 0.5	0.1, 0.4	0.2, 0.7	0.4, 0.8	0.7, 0.7
	2001	0.0, 0.5	0.0, 0.3	0.1, 0.6	0.0, 0.5	0.3, 0.7	0.3, 0.8	0.5, 0.7
	2005	0.0, 0.4	0.0, 0.4	0.0, 0.5	0.0, 0.4	0.0, 0.7	0.0, 0.7	0.1, 0.8
	2007	0.0, 0.4	0.2, 0.3	0.0, 0.5	0.0, 0.4	0.0, 0.9	0.0, 0.9	0.0, 0.9
	2010	0.0, 0.5	0.0, 0.0	0.0, 0.5	0.0, 0.4	0.0, 0.9	0.0, 0.7	0.0, 0.7
Italy	1986	0.3, 0.7	0.7, 0.6	0.3, 0.7	0.3, 0.7	0.6, 0.4	0.7, 0.6	0.6, 0.5
	1987	0.2, 0.8	0.2, 0.7	0.2, 0.7	0.2, 0.7	0.5, 0.6	0.4, 0.6	0.4, 0.6
	1989	0.2, 0.6	0.0, 0.3	0.2, 0.6	0.1, 0.5	0.1, 0.9	0.3, 0.7	0.3, 0.7
	1991	0.2, 0.6	0.0, 0.4	0.2, 0.6	0.1, 0.6	0.2, 0.8	0.4, 0.8	0.0, 0.7
	1993	0.2, 0.7	0.2, 0.6	0.1, 0.7	0.2, 0.7	0.3, 0.7	0.3, 0.7	0.0, 0.7
	1995	0.2, 0.7	0.1, 0.8	0.1, 0.7	0.1, 0.7	0.2, 0.8	0.0, 0.7	0.1, 0.6
	1998	0.2, 0.7	0.0, 0.4	0.1, 0.7	0.0, 0.6	0.2, 0.8	0.0, 0.7	0.0, 0.7
	2000	0.2, 0.7	0.1, 0.4	0.2, 0.7	0.1, 0.6	0.2, 1.0	0.4, 0.6	0.4, 0.6
	2004	0.2, 0.6	1.0, 0.2	0.2, 0.6	0.4, 0.5	0.2, 0.6	0.2, 0.6	0.2, 0.4
	2008	0.2, 0.7	0.6, 0.5	0.1, 0.7	0.2, 0.6	0.2, 0.6	0.5, 0.4	0.5, 0.4
	2010	0.2, 0.6	0.1, 0.5	0.2, 0.6	0.2, 0.6	0.3, 0.4	0.0, 0.6	0.0, 0.6
Japan	2008	0.1, 0.6	0.0, 0.7	0.1, 0.6	0.0, 0.6	0.9, 0.5	0.9, 0.6	0.9, 0.6
Luxembourg	1985	0.3, 0.7	0.4, 0.6	0.3, 0.7	0.3, 0.7	0.6, 0.8	0.3, 1.0	0.3, 1.0
	1991	0.2, 0.7	0.2, 0.6	0.2, 0.7	0.2, 0.7	0.4, 1.0	0.5, 0.8	0.5, 1.0
	1994	0.3, 0.7	0.3, 0.6	0.3, 0.7	0.3, 0.6	0.4, 0.9	0.3, 1.0	0.2, 1.0
	1997	0.2, 0.7	0.1, 0.6	0.2, 0.7	0.1, 0.6	0.2, 0.9	0.2, 0.8	0.2, 0.8
	2000	0.2, 0.6	0.1, 0.5	0.2, 0.7	0.2, 0.6	0.3, 0.8	0.3, 0.8	0.3, 0.8
	2004	0.3, 0.6	0.6, 0.4	0.3, 0.6	0.3, 0.6	0.2, 0.8	0.2, 0.8	0.2, 0.8
	2007	0.4, 0.6	0.4, 0.5	0.4, 0.6	0.4, 0.6	0.2, 0.6	0.3, 0.8	0.3, 0.9
	2010	0.3, 0.6	0.4, 0.6	0.2, 0.7	0.3, 0.6	0.2, 0.8	0.2, 0.8	0.2, 0.9

Table 4: (continued)

		Inequality				Poverty		
	year	gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Mexico	1984	0.0, 0.5	0.0, 0.1	0.0, 0.5	0.0, 0.4	0.2, 1.0	0.2, 1.0	0.3, 0.9
	1989	0.0, 0.4	0.0, 0.0	0.0, 0.4	0.0, 0.2	0.2, 0.9	0.0, 0.8	0.2, 0.9
	1992	0.0, 0.5	0.0, 0.4	0.0, 0.6	0.0, 0.5	0.1, 0.8	0.0, 0.9	0.0, 0.9
	1994	0.0, 0.4	0.0, 0.0	0.0, 0.5	0.0, 0.2	0.1, 1.0	0.0, 1.0	0.1, 0.9
	1996	0.0, 0.4	0.0, 0.0	0.0, 0.4	0.0, 0.3	0.0, 0.5	0.0, 0.5	0.0, 0.5
	1998	0.0, 0.4	0.0, 0.0	0.0, 0.4	0.0, 0.2	0.0, 1.0	0.0, 0.8	0.0, 0.8
	2000	0.0, 0.4	0.0, 0.1	0.0, 0.5	0.0, 0.3	0.0, 0.7	0.0, 0.7	0.0, 0.7
	2002	0.0, 0.5	0.0, 0.3	0.0, 0.5	0.0, 0.4	0.0, 0.6	0.0, 0.6	0.0, 0.6
	2004	0.0, 0.4	0.0, 0.0	0.0, 0.4	0.0, 0.2	0.2, 0.9	0.1, 1.0	0.0, 0.9
	2008	0.0, 0.6	0.0, 0.0	0.0, 0.6	0.0, 0.4	0.1, 0.9	0.1, 0.9	0.1, 0.7
	2010	0.0, 0.6	0.0, 0.2	0.0, 0.6	0.0, 0.5	0.0, 0.7	0.1, 1.0	0.0, 0.8
Netherlands	1983	0.5, 0.7	0.3, 0.7	0.6, 0.6	0.4, 0.7	1.0, 0.8	1.0, 0.5	1.0, 0.5
	1987	0.3, 0.8	0.2, 0.7	0.4, 0.7	0.3, 0.7	1.0, 0.6	1.0, 0.6	1.0, 0.7
	1990	0.2, 0.7	0.1, 0.7	0.2, 0.8	0.2, 0.7	0.5, 0.8	0.5, 1.0	0.3, 1.0
	1993	0.2, 0.7	0.2, 0.7	0.3, 0.7	0.2, 0.7	0.6, 0.9	0.7, 0.8	0.7, 0.8
	1999	0.1, 0.8	0.1, 0.8	0.2, 0.8	0.1, 0.8	0.3, 1.0	0.4, 1.0	0.4, 1.0
	2004	0.2, 0.8	0.0, 0.4	0.2, 0.8	0.1, 0.7	0.3, 0.8	0.2, 1.0	0.1, 1.0
	2007	0.2, 0.9	0.5, 0.7	0.3, 0.9	0.3, 0.9	0.3, 0.9	0.4, 1.0	0.4, 1.0
	2010	0.2, 0.9	0.3, 0.7	0.2, 0.9	0.3, 0.8	0.5, 0.6	0.4, 1.0	0.4, 1.0
Norway	1979	0.3, 0.8	0.3, 0.9	0.4, 0.8	0.3, 0.8	0.4, 1.0	0.5, 1.0	0.6, 1.0
	1986	0.3, 0.9	0.3, 0.9	0.3, 1.0	0.3, 0.9	0.6, 1.0	0.5, 1.0	0.4, 1.0
	1991	0.3, 0.9	0.3, 0.9	0.3, 0.9	0.3, 0.9	0.4, 1.0	0.4, 1.0	0.4, 1.0
	1995	0.3, 0.9	0.2, 0.9	0.3, 1.0	0.3, 0.9	0.5, 1.0	0.5, 1.0	0.5, 1.0
	2000	0.3, 0.9	0.5, 1.0	0.3, 1.0	0.3, 1.0	0.5, 1.0	0.5, 1.0	0.6, 1.0
	2004	0.2, 1.0	0.0, 1.0	0.2, 1.0	0.2, 1.0	0.3, 1.0	0.4, 1.0	0.5, 1.0
	2007	0.3, 0.9	0.3, 0.9	0.3, 1.0	0.3, 0.9	0.4, 1.0	0.5, 1.0	0.6, 1.0
	2010	0.3, 0.9	0.2, 1.0	0.3, 1.0	0.2, 1.0	0.4, 1.0	0.5, 1.0	0.6, 1.0
Peru	2004	0.0, 0.7	0.0, 0.3	0.0, 0.8	0.0, 0.6	0.0, 1.0	0.0, 1.0	0.0, 1.0
Poland	1986	0.2, 1.0	0.4, 0.9	0.2, 1.0	0.3, 0.9	0.2, 1.0	0.1, 1.0	0.1, 1.0
	1992	0.5, 0.6	0.4, 0.5	0.5, 0.6	0.5, 0.6	0.6, 0.8	0.5, 0.7	0.7, 0.6
	1995	0.3, 0.6	0.5, 0.7	0.2, 0.6	0.3, 0.6	0.1, 0.7	0.0, 0.6	0.1, 0.5
	1999	0.2, 0.6	0.1, 1.0	0.2, 0.6	0.2, 0.7	0.2, 0.7	0.1, 0.7	0.1, 0.7
	2004	0.2, 0.6	0.9, 0.6	0.2, 0.6	0.4, 0.5	0.0, 0.6	0.0, 0.6	0.1, 0.5
	2007	0.4, 0.6	1.0, 0.4	0.4, 0.6	0.5, 0.5	0.2, 0.7	0.2, 0.7	0.3, 0.6
	2010	0.5, 0.5	1.0, 0.1	0.5, 0.5	0.6, 0.5	0.2, 0.7	0.3, 0.7	0.3, 0.6

Table 4: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Romania	1995	0.3, 0.7	1.0, 0.2	0.3, 0.7	0.4, 0.6	0.2, 0.8	0.2, 0.8	0.2, 0.8
	1997	0.4, 0.7	0.2, 0.7	0.3, 0.7	0.3, 0.7	0.3, 0.8	0.2, 0.7	0.2, 0.7
Russia	2000	0.8, 0.7	0.0, 0.0	0.6, 0.7	0.8, 0.5	0.3, 1.0	0.0, 1.0	0.0, 1.0
	2004	0.4, 0.9	0.6, 0.6	0.3, 0.9	0.4, 0.8	0.3, 0.9	0.3, 0.9	0.0, 1.0
	2007	0.5, 0.8	0.4, 0.6	0.4, 0.8	0.5, 0.8	0.3, 1.0	0.4, 0.8	0.4, 0.8
	2010	0.3, 0.8	1.0, 0.6	0.2, 0.8	0.4, 0.8	0.3, 0.8	0.0, 0.7	0.0, 0.7
Slovak Republic	1992	0.4, 0.9	0.4, 0.8	0.4, 0.9	0.4, 0.9	0.3, 1.0	0.3, 1.0	0.5, 0.9
	1996	0.3, 0.8	0.5, 0.6	0.3, 0.8	0.3, 0.7	0.2, 0.8	0.2, 0.8	0.1, 0.8
	2004	0.3, 0.9	0.4, 0.6	0.3, 0.9	0.3, 0.8	0.0, 0.9	0.0, 0.8	0.0, 0.9
	2007	0.3, 0.9	0.2, 0.7	0.3, 0.8	0.3, 0.8	0.1, 0.9	0.0, 0.9	0.0, 0.9
	2010	0.3, 0.8	0.0, 0.3	0.2, 0.8	0.2, 0.7	0.3, 0.6	0.0, 0.8	0.0, 0.8
Slovenia	1997	0.4, 0.8	0.4, 0.7	0.4, 0.8	0.4, 0.8	0.5, 0.9	0.5, 1.0	0.5, 1.0
	1999	0.4, 0.8	0.4, 0.7	0.5, 0.8	0.4, 0.8	0.6, 1.0	0.7, 1.0	0.7, 1.0
	2004	0.5, 0.8	0.5, 0.7	0.5, 0.8	0.5, 0.8	0.6, 1.0	0.5, 1.0	0.5, 1.0
	2007	0.5, 0.8	0.5, 0.7	0.5, 0.8	0.5, 0.8	0.4, 1.0	0.4, 1.0	0.1, 1.0
	2010	0.5, 0.8	0.5, 0.7	0.5, 0.9	0.5, 0.8	0.6, 1.0	0.5, 1.0	0.9, 1.0
South Africa	2008	0.0, 0.1	0.0, 0.0	0.0, 0.3	0.0, 0.0	0.1, 0.8	0.1, 0.8	0.1, 0.8
	2010	0.0, 0.1	0.0, 0.0	0.0, 0.2	0.0, 0.0	0.3, 0.6	0.1, 0.4	0.2, 0.6
South Korea	2006	0.5, 0.6	0.3, 0.5	0.6, 0.7	0.5, 0.6	1.0, 1.0	1.0, 1.0	1.0, 1.0
Spain	1980	0.4, 0.6	0.0, 0.4	0.4, 0.7	0.4, 0.6	0.6, 1.0	1.0, 0.7	1.0, 0.7
	1985	0.3, 0.5	0.1, 0.3	0.3, 0.5	0.3, 0.4	0.4, 0.7	0.1, 0.8	0.1, 0.8
	1990	0.3, 0.7	0.0, 0.4	0.3, 0.7	0.2, 0.6	0.5, 0.9	0.5, 0.9	0.5, 0.9
	1995	0.7, 0.6	0.9, 0.6	0.5, 0.6	0.7, 0.6	0.5, 0.9	0.3, 0.8	0.0, 0.8
	2000	0.4, 0.8	0.5, 0.6	0.4, 0.8	0.4, 0.7	0.2, 0.9	0.3, 1.0	0.2, 1.0
	2004	0.3, 0.7	0.4, 0.5	0.3, 0.7	0.4, 0.6	0.2, 0.9	0.3, 1.0	0.2, 1.0
	2007	0.4, 0.7	0.5, 0.6	0.4, 0.7	0.4, 0.6	0.2, 1.0	0.3, 1.0	0.1, 0.9
	2010	0.4, 0.7	0.4, 0.6	0.3, 0.7	0.4, 0.6	0.5, 0.8	0.0, 0.8	0.0, 0.8

Table 4: (continued)

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
Sweden	1967	0.5, 0.6	0.5, 0.6	0.8, 0.6	0.5, 0.6	1.0, 0.7	1.0, 0.7	1.0, 0.6
	1975	0.5, 0.8	0.4, 0.8	0.5, 0.9	0.5, 0.8	0.9, 0.8	0.8, 1.0	1.0, 1.0
	1981	0.3, 0.9	0.3, 0.9	0.3, 0.9	0.3, 0.9	0.7, 0.7	0.5, 1.0	0.5, 1.0
	1987	0.3, 1.0	0.2, 1.0	0.3, 1.0	0.3, 1.0	0.7, 1.0	0.8, 1.0	1.0, 1.0
	1992	0.2, 1.0	0.2, 1.0	0.3, 1.0	0.2, 1.0	0.6, 0.9	0.6, 1.0	0.7, 1.0
	1995	0.2, 1.0	0.2, 1.0	0.3, 1.0	0.2, 1.0	0.6, 1.0	0.7, 1.0	0.9, 1.0
	2000	0.2, 1.0	1.0, 1.0	0.3, 1.0	0.3, 1.0	0.4, 1.0	0.6, 1.0	0.7, 1.0
	2005	0.2, 1.0	0.0, 1.0	0.2, 1.0	0.2, 1.0	0.5, 0.9	0.4, 1.0	0.4, 1.0
Switzerland	1982	0.2, 0.8	0.0, 1.0	0.2, 0.9	0.1, 1.0	0.4, 1.0	0.5, 1.0	0.5, 1.0
	1992	0.1, 0.7	1.0, 0.7	0.1, 0.7	0.2, 0.6	0.4, 0.8	0.3, 0.8	0.4, 0.6
	2000	0.1, 0.6	0.0, 0.3	0.1, 0.6	0.0, 0.5	0.3, 1.0	0.4, 0.7	0.4, 0.7
	2002	0.1, 0.6	0.5, 0.5	0.1, 0.7	0.2, 0.6	0.5, 0.8	0.5, 0.9	0.5, 0.9
	2004	0.1, 0.6	0.0, 0.5	0.1, 0.7	0.0, 0.6	0.4, 1.0	0.5, 0.8	0.4, 1.0
Taiwan	1981	0.0, 0.4	0.0, 0.4	0.1, 0.5	0.0, 0.4	0.6, 0.5	0.8, 0.7	0.7, 0.8
	1986	0.2, 0.5	0.0, 0.5	0.2, 0.6	0.1, 0.5	0.9, 0.6	0.7, 0.8	0.7, 0.9
	1991	0.2, 0.5	0.0, 0.1	0.3, 0.5	0.1, 0.4	0.8, 0.8	0.8, 0.9	0.8, 0.9
	1995	0.2, 0.5	0.0, 0.4	0.4, 0.7	0.2, 0.5	0.7, 0.8	0.6, 1.0	0.8, 1.0
	1997	0.3, 0.6	0.1, 0.4	0.4, 0.6	0.3, 0.5	0.5, 1.0	0.5, 1.0	0.5, 1.0
	2000	0.4, 0.6	0.2, 0.4	0.4, 0.6	0.3, 0.5	0.6, 0.9	0.8, 0.9	0.7, 1.0
	2005	0.4, 0.6	0.1, 0.4	0.5, 0.7	0.4, 0.6	0.6, 1.0	0.7, 1.0	0.7, 1.0
	2007	0.4, 0.6	0.3, 0.4	0.5, 0.7	0.4, 0.6	0.6, 1.0	0.7, 1.0	0.7, 1.0
	2010	0.5, 0.6	0.2, 0.3	0.5, 0.7	0.5, 0.5	0.6, 1.0	0.6, 1.0	0.6, 1.0
United Kingdom	1969	0.7, 1.0	0.2, 0.9	0.7, 1.0	0.5, 1.0	1.0, 1.0	1.0, 1.0	1.0, 1.0
	1974	0.1, 0.9	0.0, 0.7	0.2, 1.0	0.1, 0.9	0.5, 1.0	0.4, 1.0	0.4, 1.0
	1979	0.2, 1.0	0.3, 0.9	0.3, 1.0	0.3, 0.9	0.5, 1.0	0.5, 1.0	0.4, 1.0
	1986	0.2, 1.0	0.1, 0.8	0.2, 0.9	0.2, 0.9	0.3, 0.9	0.4, 0.8	0.3, 0.9
	1991	0.1, 0.9	0.0, 0.8	0.1, 1.0	0.0, 0.9	0.2, 1.0	0.3, 1.0	0.3, 1.0
	1994	0.1, 0.9	0.1, 0.6	0.2, 0.9	0.1, 0.8	0.3, 0.9	0.4, 0.9	0.4, 0.9
	1995	0.1, 1.0	0.0, 1.0	0.1, 1.0	0.1, 1.0	0.2, 1.0	0.2, 0.9	0.2, 0.9
	1999	0.1, 0.9	0.0, 0.2	0.1, 0.9	0.1, 0.8	0.3, 1.0	0.3, 1.0	0.4, 0.9
	2004	0.1, 0.9	0.4, 0.6	0.2, 0.9	0.2, 0.8	0.4, 0.9	0.4, 0.9	0.4, 0.9
	2007	0.1, 0.9	0.1, 0.5	0.2, 0.9	0.2, 0.8	0.2, 1.0	0.2, 1.0	0.3, 1.0
	2010	0.2, 0.9	0.3, 0.6	0.2, 0.9	0.2, 0.8	0.1, 1.0	0.3, 1.0	0.3, 1.0

Table 4: *(continued)*

	year	Inequality				Poverty		
		gini	cv2	ge0	ge1	fgt0	fgt1	fgt2
United States								
	1974	0.1, 0.9	0.1, 0.7	0.1, 0.9	0.1, 0.8	0.4, 1.0	0.3, 1.0	0.1, 1.0
	1979	0.0, 0.7	0.0, 0.7	0.0, 0.8	0.0, 0.7	0.1, 1.0	0.2, 1.0	0.2, 1.0
	1986	0.0, 0.8	0.0, 0.6	0.0, 0.8	0.0, 0.7	0.1, 1.0	0.1, 1.0	0.1, 1.0
	1991	0.0, 0.7	0.0, 0.6	0.0, 0.8	0.0, 0.7	0.0, 1.0	0.0, 1.0	0.1, 1.0
	1994	0.0, 0.8	0.0, 0.6	0.0, 0.8	0.0, 0.7	0.0, 1.0	0.0, 1.0	0.1, 1.0
	1997	0.0, 0.7	0.0, 0.5	0.0, 0.8	0.0, 0.7	0.1, 1.0	0.1, 1.0	0.1, 1.0
	2000	0.1, 0.7	0.2, 0.5	0.1, 0.8	0.1, 0.7	0.1, 1.0	0.1, 1.0	0.1, 1.0
	2004	0.1, 0.7	0.2, 0.5	0.1, 0.8	0.1, 0.7	0.3, 0.9	0.2, 1.0	0.1, 1.0
	2007	0.1, 0.7	0.3, 0.5	0.1, 0.8	0.2, 0.6	0.1, 0.9	0.1, 1.0	0.1, 1.0
	2010	0.1, 0.7	0.2, 0.4	0.1, 0.7	0.1, 0.6	0.2, 1.0	0.1, 0.9	0.0, 1.0
Uruguay								
	2004	0.0, 0.5	0.5, 0.6	0.0, 0.5	0.0, 0.5	0.0, 0.6	0.0, 0.7	0.0, 0.7