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More is Not Necessarily Better: An Empirical Analysis of the Inequality-Growth Tradeoff Using the Luxembourg Income Study

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AN EMPIRICAL ANALYSIS OF THE INEQUALITY-GROWTH TRADEOFF USING THE LUXEMBOURG INCOME STUDY

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Abstract

Whenever a country experiences an increase in its mean income, inequality roars its ugly head and the net outcome in terms of poverty remains ambiguous. Kakwani (2000) proposes an instrument that allows quantifying this inequality-growth tradeoff. This paper applies that methodology to 28 middle- and high-income countries included in the Luxembourg Income Study database. It finds that the inequality-growth tradeoff is generally quite high for all countries. This finding implies that there can be no sustained reduction of poverty without income redistribution.

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I. INTRODUCTION

A Charles Saxon cartoon[1] shows a grandfather telling his grandson: "It's true that more is not necessarily better, Edward, but it frequently is". Most of us will nod in agreement: indeed, in most cases more is better. And most of us will also agree that this is certainly true of income: having a higher income is better than having a lower income. Beware, however, of the fallacy of composition. This fallacy holds that what is true for the individual is not necessarily true for the group. But how can a higher income be bad?

Adam Smith, in the *Wealth of Nations* (1776), already recognised that poverty is not a purely absolute state, but that it is determined by social custom. Sen (1983) argues that poverty is absolute in the space of capabilities, but as the standard of living rises, it becomes relative in commodity space. Consequently, at the aggregate level, unbridled income growth will not be enough to eliminate poverty, as distributional issues also matter: as soon as incomes start rising, inequality roars its ugly head and if income growth has only a small impact on poverty, it is because the distribution of incomes becomes more unequal.

In recent years, a buoyant literature has sprung up in development economics that examines the relationship between economic growth and poverty in low-income countries. Economic growth is generally believed to benefit the poor – at least in the long run – through the process of 'trickling down'. Yet, in theory as well as in practice, very little is known about the underlying mechanism that transforms economic growth at the aggregate level into better living conditions at the individual level. The general perception of the trickling down process is that economic growth benefits the poor through higher employment and increased wages. Furthermore, economic growth may trigger an increase in the demand for the goods and services primarily supplied by the poor. Finally, economic growth may increase tax revenues, which in turn may lead to an increase in the share of public spending in favour of the poor. Ravallion and Datt (1999) find that economic growth is a necessary, though not a sufficient condition in order to achieve a sustained reduction of poverty. Dollar and Kray (2000) find that more is always better. Indeed, their controversial findings suggest that there exists a 1-1 relationship between economic growth and poverty reduction in developing countries. The policy implication of this finding is that economic growth should be maximised, and that concerns about the distribution of incomes should be left until later.

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[1] Reprinted in Rosen [2002: 513].

However, this finding does not square with the observation that despite several decades of robust economic growth, the high-income economies of the northern hemisphere are today no closer to conquering poverty than they were 20, 30 or 40 years ago. Clearly, too little of the proceeds of economic growth is trickling down to lift the recipients of low incomes out of poverty and consequently, one may wonder why unfettered economic growth is not sufficient to conquer poverty.

Using a methodology proposed by Kakwani (2000), this paper provides an empirical analysis of the tradeoff between income growth and income inequality from an internationally comparative perspective. Indeed, all countries, whether rich or poor, are looking to economic growth in order to reduce poverty. However, to the extent that initial inequality and the relationship between growth and inequality differ across countries, the effect of economic growth on poverty will also differ between countries. Thus, the same rate of economic growth will not deliver the same poverty reduction in all countries and policies aiming at achieving a sustained reduction of poverty must take into account the tradeoff between growth and inequality. In fact, the larger the adverse effect of growth on income inequality, the more appropriate will be policies that redistribute incomes in favour of the poor. Conversely, the smaller the adverse effect of growth on income inequality, the more appropriate will be growth-maximising policies.

Using data from the Luxembourg Income Study (LIS), an internationally comparative database of household surveys, growth and inequality elasticities as well as an inequality-growth tradeoff index (IGTI) are computed. The LIS is a particularly interesting database for the purposes of this paper, as it provides repeated snapshots of income distributions from the 1970s to 2000 for 28 countries from 4 continents. These countries are generally mature high-income countries, but the LIS database also includes information from a range of 'maturing' middle-income countries.

This paper proceeds as follows. In section 2, we briefly present the Luxembourg Income Study and review some data issues. In section 3, we present the methodology proposed in Kakwani (2000) that is underlying the empirical analysis in the paper. In section 4, we present and discuss the results. Finally, section 5 concludes.

II. DATA ISSUES

The empirical analysis presented in this paper uses Luxembourg Income Study (LIS) data spanning the years 1967-2000. The Annex provides the full list of all countries

and years included in the analysis, along with the codes used to identify the datasets throughout the tables and graphs in this paper.

The LIS is an internationally comparative database of cross-sectional household survey data. The objective of the LIS is to foster cross-country research of a comparative nature, mainly in the areas of income distribution, labour markets and socio-demographics. The LIS database contains harmonised variables and identical data structures. Although the LIS essentially provides snapshots of income distributions at a particular point in time, it is possible to track country-specific changes over time by analysing repeated cross-sections data.

The LIS database currently includes data from 28 countries from Europe, North and Central America, Asia and Australia. Among the most recent additions to the LIS database are a host of formerly centrally planned economies and Central and Eastern Europe as well as Mexico. The recently added countries are generally 'maturing' middle-income economies, and comparisons of their experiences to those of mature high-income economies – which applies to the majority of LIS countries – seem particularly interesting.

The analysis of income data from household surveys typically entails a number of choices. These choices pertain to the unit of observation, the unit of measurement and the poverty line.

In this paper, the unit of observation is the household and we implicitly make an assumption of equal sharing of resources within the household.

The unit of measurement is disposable income per equivalent adult.

Household incomes are standardised using the following two-parameter equivalence scale:

$$DPI_{EQ} = \frac{DPI}{(A + 0.75\,C)^{0.75}}$$

where DPI_{EQ} is disposable income per equivalent adult, DPI is disposable income of the household, A is the number of adults in the household and C is the number of children in the household.

Following Citro and Michael [1995: 59], differences in needs are accounted for by treating every child as 75 percent of an adult. Likewise, in order to take into account

economies of scale in consumption, an elasticity factor of needs with respect to household size of 0.75 is assumed.

Note that in order not to give undue influence to outlying observations in the far left-hand tail of the income distribution, the distribution of disposable income per equivalent adult is bottom-coded at 10 per cent of the median.

The poverty line is set in relative terms. Callan and Nolan [1991: 253] explain that: "The general rationale is that those falling more than a certain 'distance' below the average or normal income level in the society are unlikely to be able to participate fully in the life of the community". It is also precisely for this reason that we should care about the effect on inequality of rising incomes.

In order to assess the sensitivity of the results to the choice of the low-income cut-off point, two poverty lines are retained: half the median and two thirds of the median of disposable income per equivalent adult. These poverty lines are widely used in empirical work. The median is preferred to the mean as a reference point for societal welfare as it provides a more robust measure of the location of the central tendency in income data.

III. THE INEQUALITY-GROWTH TRADEOFF

Following Kakwani (2000), the effect of economic growth on poverty can be decomposed into two factors: the effect of growth on poverty when inequality remains unchanged, and the effect of a change in inequality on poverty when the mean income of society remains unchanged.

For $\alpha \neq 0$, the elasticity of the Foster, Greer and Thorbecke (1984) class of poverty measures with respect to income – keeping inequality fixed – is given by:

$$\eta_\alpha = \frac{\partial \theta_\alpha}{\partial \mu}\frac{\mu}{\theta_\alpha} = -\frac{\alpha\left(\theta_{\alpha-1} - \theta_\alpha\right)}{\theta_\alpha}$$

where α is a poverty aversion parameter, θ is the Foster, Greer and Thorbecke (F-G-T) poverty index and μ is the mean income of society. η_α gives the percentage reduction in poverty for a 1 per cent increase in the mean income of society, holding the degree of inequality constant. The growth elasticity exhibits a negative sign, i.e. an increase

in the mean income of society – holding inequality constant – reduces the incidence of poverty.

The F-G-T poverty index is defined as follows:

$$\theta_\alpha = \frac{1}{n}\sum_{i=1}^{p}\left(\frac{z-y_i}{z}\right)^{\alpha}$$

where n is the population size, p is the number of poor persons or households, z is the poverty line and y_i is the income of poor household i. Notice that θ_0 is the headcount index and θ_1 is the poverty gap ratio.

For $\alpha > 0$, the F-G-T index satisfies the desirable axiomatic requirements for poverty measures identified by Sen (1976). These include the focus axiom[2], the monotonicity axiom[3] and the transfer axiom[4]. As explained above, for $\alpha = 0$, the F-G-T index is simply the headcount index, i.e. the share of poor households or persons in the population. For $\alpha = 1$, the F-G-T index is the poverty gap ratio, i.e. it takes into account the share of poor households and persons, as well as the distance of the poor from the poverty line (poverty gap). Finally, for $\alpha > 1$, the F-G-T index also takes into account the degree of income inequality among the poor.

Kakwani (2000) observes that the impact of economic growth on poverty reduction is state-dependent, i.e. it is smaller when the depth of poverty (poverty gap) is larger, and *vice-versa*.

Furthermore, for $\alpha \neq 0$, the elasticity of the Foster, Greer and Thorbecke (1984) class of poverty measures with respect to inequality – keeping the mean income of society fixed – is given by:

$$\varepsilon_\alpha = 1 + \frac{\alpha\,\theta_{\alpha-1}}{\theta_\alpha}\frac{(\mu - z)}{z}.$$

The inequality elasticity is derived under the assumption that the change in inequality materialises through a shift of the entire Lorenz curve. It gives the percentage reduction of poverty for a 1 per cent decrease of inequality, holding the mean income

[2] Income changes of the non-poor that do not alter the number of poor should leave the index unaffected.
[3] A reduction in the income of a poor household or person should increase the index.
[4] A transfer from a poor household or person to a richer entity should increase the index.

of society constant. The inequality elasticity will always be positive, i.e. an increase in income inequality – holding the mean income of society constant – will cause on increase of poverty. The negative impact of inequality on poverty will be larger when the depth of poverty is smaller, and *vice-versa*.

The fact that economic growth has a positive impact on incomes, which in turn reduces poverty, while at the same time, it is also likely to exacerbate income inequality and thus increase poverty inevitably raises the spectre of the existence of a tradeoff between inequality and growth. Thus, one might be inclined to ask: How much growth is necessary in order to offset the adverse effect on income inequality.

The inequality-growth tradeoff index (IGTI) proposed by Kakwani (2000) provides an answer to this question. It is defined as follows:

$$IGTI = \frac{\partial \mu}{\partial G} \frac{G}{\mu} = -\frac{\varepsilon_{\theta}}{\eta_{\theta}}.$$

The interpretation of the IGTI goes as follows: an IGTI equal to 3.0 means that it takes an increase of the mean income of society of 3 per cent in order to offset the effect on poverty of an increase in income inequality of 1 per cent. Alternatively, it means that in terms of poverty reduction, a 1 per cent reduction of income inequality is equivalent to a growth of the mean income of society of 3 per cent.

How best to fight poverty? Should countries attempt to maximise growth and rely on the “trickling down” process to reduce poverty? Or should countries actively redistribute incomes in favour of poor households in order to achieve a reduction in income inequality? The IGTI helps to answer these difficult questions. In fact, a small IGTI suggests that the growth effect is sizeable relative to the inequality effect and that therefore the goal of poverty reduction is best served by adopting policies that foster economic growth. However, a large IGTI suggests that the growth effect is small relative to the inequality effect and that therefore poverty reduction can only be achieved through actively redistributing incomes in favour of the poor in order to reduce the extent of inequality.

IV. THE RESULTS

Table 1 shows F-G-T class poverty indices and Gini coefficients of income inequality for the complete set of LIS datasets – all countries and all years. Figures 1 and 2

depict the poverty and inequality indices, using for each country the latest dataset currently available in the LIS database.

Figure 1 identifies Mexico, Russia, the United States and Israel as countries with a high poverty incidence (headcount poverty rates in excess of 15% at the half median cut-off point), while at the other end of the spectrum, the Slovak Republic, the Czech Republic, Luxembourg and Finland are countries with a very low poverty incidence (headcount rates below 5%). The remaining countries exhibit poverty rates that lie roughly between 6% and 12%.

In qualitative terms, the results are fairly robust to the choice of poverty line and the choice of poverty index. In fact, checking for the robustness of the results with respect to the choice of poverty line yields Spearman rank correlation coefficients between 0.83 and 0.98, while checking for the robustness of the results with respect to the choice of poverty index yields Spearman rank coefficients between 0.71 and 0.98.

Some noteworthy exceptions to this rule are the reversal that occurs between Mexico and Russia for the headcount and gap ratios, indicating that "depth" of poverty is a worse problem in Russia than in Mexico. Israel the United Kingdom and, to a lesser extent, France exhibit fairly high headcount poverty, but they significantly improve their rankings on the basis of the gap poverty measures. The opposite holds for Norway.

Figure 2 shows the Gini coefficient of income inequality. An income distribution that yields a Gini coefficient in excess of 0.40 is generally considered to be very unequal. In Figure 2, this applies to the income distributions of Mexico and Russia. With a Gini coefficient between 0.35 and 0.40, income inequality is also quite high in Estonia, Israel, the United Kingdom and the United States. On the other hand, an income distribution that yields a Gini coefficient of less than 0.25 may be considered as very egalitarian. In Figure 2, this applies to Luxembourg, Norway, the Slovak Republic and Sweden.

Our discussion of Figures 1 and 2 suggests that there exists a positive correlation between income inequality and poverty as the most unequal countries also exhibit the highest poverty rates, while the most equal countries also exhibit the lowest poverty rates. This positive correlation between income inequality and poverty is more formally analysed in Figures 3-5.

Figures 3-5 show scatterplots of the F-G-T class of poverty indices and the Gini coefficient of income inequality. In addition, the graphs depict a straight line that is

fitted to the observations, capturing the relationship on average between poverty and income inequality. This line is upward sloping in all three graphs, thus confirming that, on average, there exists a positive correlation between inequality and poverty.

In these graphs, Mexico and Russia are located in the upper right-hand corner, which means that they are characterised by both high inequality and high poverty. The Czech Republic, Finland, Luxembourg and the Slovak Republic are situated in the lower left-hand corner, implying that they are low-inequality and low-poverty countries. The remaining countries are "massed" between these two extremes. Notice, however, that as we start taking into account the depth of poverty, the dispersion in the scatterplots increases, i.e. the differentiation between countries is increasing.

If we compare Figures 3-5 to each other, we can see that most countries roughly stay put in one place, i.e. the nature of the relationship between inequality and poverty is not affected by the choice of poverty index. However, for a handful of countries, significant changes of location do take place. Switzerland, for instance, gradually moves from the centre to the right, indicating a depth-of-poverty problem. Four other countries – Israel, Taiwan, the United Kingdom and the United States – gradually move to the left, indicating that headcount poverty measures exaggerate the poverty incidence relative to gap-based poverty measures (and thus, that poverty is fairly shallow).

For the magnitude of the inequality-growth tradeoff, the poverty-inequality taxonomy of countries is highly relevant. In countries with a high degree of initial inequality, the inequality-growth tradeoff will be high as the inequality effect outweighs the growth effect. Likewise, in countries with a large average depth of poverty, the growth effect will be subdued and consequently, the inequality-growth tradeoff will be large. Thus, we can expect low-inequality, low-poverty countries to exhibit a low inequality-growth tradeoff, while on the other hand we can expect high-inequality, high-poverty countries to exhibit a large inequality growth tradeoff.

Tables 2 and 3 provide growth elasticities, inequality elasticities and the IGTI of the poverty gap ratio and the severity of poverty index for the complete set of LIS datasets. Figures 6 and 7 depict the growth and inequality elasticities for the poverty gap ratio and the severity of poverty index respectively using the latest available dataset for each country. Again, the results are fairly robust to the choice of poverty index and from a qualitative point of view the same conclusions emerge.

The growth elasticity of the poverty gap ratio varies between 1.03 and 4.78 and is on average equal to 2.33. Thus, on average and holding inequality constant, a 1%

increase in the mean income of a country reduces poverty by 2.33%. The growth elasticity for the severity of poverty index is slightly smaller.

In Luxembourg and Taiwan, the effect of income growth on poverty is largest, with a growth elasticity in excess of 4 (for the poverty gap ratio). In Finland, France, Ireland, Poland and the Slovak Republic, the growth effect is also strong (growth elasticity between 3 and 4 for the poverty gap ratio). The effect of income growth on poverty is smallest in Switzerland, with a growth elasticity of around 1. Furthermore, the Nordic countries Denmark and Sweden, as well as the Netherlands and Russia exhibit fairly small growth elasticities (roughly situated between 1 and 1.2). Also notice the relatively modest growth elasticity for Mexico of 1.44. Mexico is one of the poorest countries in the LIS database. During the period 1990-2000, the Mexican economy grew on average by 3.1% per annum. However, with a growth elasticity below 1.5, on may conclude tentatively that Mexico cannot solely rely on economic growth in order to achieve a sustained reduction in poverty incidence. In the Russian case, the fairly low growth elasticity may actually be a blessing in disguise, as during the period 1990 to 2000, the Russian economy shrank on average by almost 5% per annum. In this case, a low growth elasticity implies that negative economic growth does not have a very large impact on the number of poor and the depth of poverty. One may also point out the lower than average growth elasticity for the United States. In fact, pro-poor policies in the United States place a heavy emphasis on the benefits of economic growth and especially employment growth in order to lift the poor out of poverty. However, the computed growth elasticity suggests that higher incomes alone will not suffice in order to achieve this objective.

The inequality elasticity of the poverty gap ratio ranges from 3.42 to 8.12 and the average inequality elasticity is equal to 5.52. This implies that, on average and holding the mean income of society constant, a 1% decrease in income inequality achieves a poverty reduction of 5.52%. Conversely, a 1% increase in income inequality leads to a 5.52% increase in poverty. For the severity of poverty index, the inequality elasticity is generally larger than for the poverty gap ratio.

The sheer magnitude of the inequality elasticities, which is also clearly visible in Figures 6 and 7 demonstrates the importance of income inequality for poverty.

Six countries exhibit large inequality elasticities, i.e. in excess of 6.5 for the poverty gap and in excess of 7.5 for the severity of poverty index. These countries are France, Ireland, Israel, Luxembourg, Mexico and Taiwan. Poland and the United Kingdom also exhibit fairly high inequality elasticities. Furthermore, five countries exhibit small inequality elasticities, i.e. lower than 4 for the poverty gap and lower than 5 for

the severity of poverty index. The five countries are Austria, Denmark, the Netherlands, Sweden and Switzerland. In addition, Norway also exhibits a fairly low inequality elasticity.

The countries with large inequality elasticities must clearly beware of income inequality as a small rise in inequality has a large impact on poverty. On the other hand, fairly small reductions of income inequality deliver a fairly large benefit in terms of poverty reduction. However, given that most growth elasticities are large (higher than 4), it would be erroneous to conclude that countries with a low inequality elasticity – relatively speaking – need not pay attention to the link between inequality and poverty.

Simply examining the growth and inequality elasticities in isolation from each other bears some information, but it is important to point out that the growth effect and the inequality effect work in opposite directions: growth reduces poverty, and inequality increases it. Thus, from a policy perspective what matters are not the elasticities *per se*, but the tradeoff between the growth effect and the inequality effect. This tradeoff – summarised by the inequality-growth tradeoff index (IGTI) – is shown in Figures 8 and 9 for the poverty gap ratio and the severity of poverty index respectively.

For the poverty gap ratio, the IGTI varies between 1.70 and 4.73. On average, it is equal to 2.58. This means that it takes an increase in the mean income of a country of 2.58% in order to offset the adverse effects of a 1% increase in income inequality. It also means that a 1% reduction in income inequality has the same effect on poverty as a 2.58% increase in the mean income of society. For the severity of poverty index, the IGTI is generally higher than for the poverty gap ratio.

An IGTI in the region of 1 implies that the adverse effects of income growth on income inequality are rather subdued and consequently, that policies intending to maximise the rate of economic growth are also good poverty-reduction strategies. As the IGTI increases, the adverse inequality effect outweighs the benefits of economic growth and consequently, a sustained reduction of poverty can only be achieved via the redistribution of incomes in favour of the poor.

Luxembourg, the Slovak Republic and Taiwan exhibit the lowest IGTIs. Furthermore, Finland, France, Poland and Slovenia are characterised by fairly low IGTIs. Though these countries exhibit low IGTIs in relative terms, it should be pointed out that they are significantly larger than 1. This entails that a growth maximising poverty-reduction strategy may be more appropriate for this set of countries than for the remaining countries with higher IGTIs. However, it also implies that inequality has a

significant impact on poverty in these countries and that is therefore not advisable to dispense with redistribution policies.

At the other end of the spectrum, Mexico and Russia exhibit by far the largest IGTIs. They are followed by Austria, Australia, Denmark, Estonia, Italy, the Netherlands, Sweden and Switzerland, which are all characterised by fairly large IGTIs. In these countries, growth-maximising strategies are inadequate as they exacerbate the poverty problem and an appropriate poverty-reduction strategy must primarily focus on redistributing incomes in favour of the poor. Some of the countries in the group of high-IGTI countries – e.g. the Nordic countries and the Netherlands – already heed this advice and therefore deliver fairly low poverty coupled with fairly low inequality. Others – take e.g. Mexico and Russia – clearly do not, as they are characterised by both high poverty rates and high inequality.

Figures 8 and 9 suggest that the growth and inequality elasticities are positively correlated, i.e. the higher the growth elasticity, the higher the inequality elasticity. This is confirmed by Figures 10 and 11. They are showing scatterplots of the growth and inequality elasticities of the poverty gap ratio and the severity of poverty index. In addition, a straight line is fitted to the scatterplot that captures the average correlation between the growth and inequality elasticities. This line is upward sloping, indicating that, on average, a higher growth elasticity entails a higher inequality elasticity. In addition, the graphs also show a grey area on either side of the fitted line that corresponds to the 99% confidence region of the relationship between the growth and inequality elasticities.

A natural question to ask is whether countries are following the appropriate set of poverty-reduction policies, or if they could achieve greater poverty reduction by following a different set of policies. In the absence of any clear benchmarks, answering this question inevitably entails considerable judgement. Nevertheless, we will attempt to provide a tentative answer to this question by referring to the data depicted in Figures 10 and 11. As we have seen, income growth reduces poverty subject to the constraint that income inequality does not increase too much. If the poverty-reducing effect of growth is strong, an increase in income inequality is tolerable – up to a point. Now assume – and arguably, this is a strong assumption – that on average countries tolerate about the right amount of inequality given their growth elasticity. This entails that in Figures 10 and 11, the individual country observations should be located close to the fitted line. However, countries that depart significantly from the average pattern could achieve a better performance in terms of poverty reduction by choosing a set of policies that would approach them more closely to the fitted line.

As a benchmark for this analysis, we are choosing the 99% confidence region. Thus, countries that lie outside the grey region significantly depart from the average pattern. If the countries are situated below the fitted line, then they exhibit a relatively low inequality elasticity, given their growth elasticity. Consequently, these countries could follow more aggressively pro-growth policies as the additional inequality induced by higher growth would not be sufficient to offset the benefit of higher average incomes. This applies to the Nordic countries Denmark, Norway and Sweden, as well as to Austria, Belgium, the Slovak Republic and Slovenia. From a policy-perspective, this means that these countries are likely to achieve greater poverty reduction by, for instance, freeing up labour markets and by providing for greater competition in the markets for goods and services.

On the other hand, countries that are located above the fitted line and outside of the grey confidence region exhibit a high inequality elasticity, given their growth elasticity. If these countries follow more aggressively pro-growth policies, the benefits in terms of poverty will be more than offset by the increase in inequality. Thus, the only way to achieve a sustained reduction in poverty is by following pro-poor policies that achieve a greater redistribution of income in favour of the poor. This applies to Estonia, Ireland, Israel, Mexico, Russia and the United Kingdom. These findings suggests, for instance, that in terms of poverty reduction, so-called welfare-to-work programmes may be counter-productive in these countries, unless they are also accompanied by redistribution in favour of the recipients of low earnings, like the *Working Tax Credits* in the United Kingdom.

Notice that for most countries, the figures in Tables 2 and 3 also allow to compare the evolution of the IGTI through time. How did the IGTI change through time? Few robust conclusions emerge and the sample almost splits evenly between increasing, decreasing and more or less constant IGTIs. For Australia, Israel, Mexico and Russia, the IGTI exhibits a clear upward trend through time, suggesting that the inequality effect strengthened in relation to the growth effect. Consequently, the importance of following pro-poor policies in order to reduce poverty is increasing in these countries.

The case of the United Kingdom is rather interesting. In fact, over the long run, the IGTI for the United Kingdom increases. However, this is chiefly due to a very large increase during the first half of the 1980s. Subsequently, the IGTI decreased during the 1990s, but still remains higher than during the 1970s. The results suggest that the Thatcherite reforms of the 1980s released a considerable growth potential, but that the feedback onto poverty was highly negative due to the existence of the inequality channel.

V. CONCLUSION

The effect of economic growth on poverty is not unambiguously positive. In fact, economic growth leads to higher average incomes, and this depresses poverty. However, income growth may also exacerbate income inequality, and higher inequality leads to higher poverty. Thus, income inequality is the ugly cousin of income growth and it needs to be kept in check for economic growth to achieve a sustained reduction in poverty incidence.

This paper provides an empirical analysis of the relationship between income growth and poverty on the one hand and income inequality and poverty on the other hand.

It uses data from a cross-section of 28 high- and middle-income countries includes in the Luxembourg Income Study (LIS) database to compute a set of growth and inequality elasticities of poverty. It also computes an inequality-growth tradeoff index (IGTI), as proposed by Kakwani (2000).

If the IGTI is close to 1, it follows that pro-growth strategies are highly appropriate to reduce poverty, as the adverse effects of inequality on poverty are more than offset by the beneficial effects of income growth. However, a large IGTI implies that the negative inequality effect outweighs the positive income growth effect and therefore policies that redistribute income in favour of the poor are more appropriate in order to reduce poverty.

In our sample of countries, the inequality elasticity is typically much larger than the growth elasticity, implying that in most cases, the IGTI is larger than 1. In fact, a small number of outliers apart, the IGTI is generally much larger than 1. The average IGTI for all countries and all years is equal to 2.53 for the poverty gap ratio and 3.39 for the severity of poverty index.

This suggests that a strategy focusing exclusively on the maximisation of the rate of economic growth cannot be deemed an appropriate strategy to achieve a sustained reduction of poverty in any of the countries under scrutiny in this paper. It follows that the adverse effects of growth on inequality need to be closely monitored and that redistributive policies are crucially important in the fight against poverty.

The paper also identifies a small number of countries for which strongly redistributive income policies are likely to deliver a larger dividend in terms of poverty reduction

than in the remaining countries. This is because for a given growth effect, the inequality effect in these countries is much larger than average. Mexico and Russia – both high-inequality and high-poverty countries – belong to this sub-set of countries.

In addition, it identifies another small group of countries that could follow more actively pro-growth strategies in order to reduce poverty. These countries are characterised by a lower than average inequality effect given their growth effect. The Nordic countries Denmark, Norway and Sweden belong to this group of countries.

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TABLE 1: Foster-Greer-Thorbecke class of poverty indices and Gini coefficient of income inequality

	Poverty line is 50% of median			Poverty line is 66.67% of median			Gini coefficient
	FGT0	FGT1	FGT2	FGT0	FGT1	FGT2	
AS81	10.73	3.62	2.00	26.95	7.45	3.48	0.2988
AS85	9.30	3.09	1.71	27.93	7.21	3.14	0.3065
AS89	10.86	3.70	2.06	27.02	7.50	3.55	0.3199
AS94	13.37	5.47	3.38	30.04	9.46	5.10	0.3308
AT87	5.04	0.99	0.37	17.50	3.46	1.15	0.2235
AT95	12.45	5.53	3.31	23.20	8.36	4.88	0.2886
BE85	4.96	1.37	0.73	15.98	3.41	1.41	0.2338
BE88	4.70	1.58	0.93	16.61	3.64	1.61	0.2437
BE92	5.29	2.02	1.28	16.41	4.01	1.99	0.2343
BE97	6.85	2.07	1.14	17.95	4.51	2.04	0.2585
CH82	10.93	3.61	1.98	22.96	6.87	3.38	0.3330
CH92	10.39	5.11	3.50	21.34	7.63	4.72	0.3204
CN71	17.92	7.51	4.54	30.44	11.85	6.80	0.3581
CN75	16.24	5.58	3.04	27.55	9.67	5.05	0.3184
CN81	12.93	4.15	2.12	25.17	7.82	3.79	0.3070
CN87	12.05	3.71	1.79	23.55	7.10	3.36	0.3032
CN91	11.68	3.64	1.77	22.26	6.81	3.28	0.2962
CN94	11.88	3.52	1.67	22.54	6.79	3.19	0.3005
CN97	11.60	3.58	1.72	22.43	6.76	3.22	0.2997
CN98	12.40	3.91	1.92	24.18	7.33	3.53	0.3165
CZ92	1.10	0.25	0.10	6.73	0.94	0.28	0.1981
CZ96	3.01	0.77	0.33	10.10	2.03	0.77	0.2527
DK87	7.96	3.26	2.09	21.77	6.14	3.17	0.2702
DK92	6.95	2.95	1.84	17.68	5.00	2.72	0.2457
DK95	8.94	4.33	2.89	8.94	4.33	2.89	0.2670
DK97	8.52	3.91	2.51	18.60	5.99	3.54	0.2630
EE00	9.16	2.87	1.47	19.47	5.56	2.65	0.3610
FI87	5.00	1.27	0.52	15.07	3.26	1.24	0.2151
FI91	5.18	1.30	0.59	16.18	3.47	1.33	0.2197
FI95	3.24	0.69	0.27	3.24	0.69	0.27	0.2221
FI00	4.17	0.99	0.44	16.31	3.08	1.07	0.2544
FR79	7.63	2.59	1.39	21.23	5.44	2.48	0.3046
FR81	8.96	2.75	1.40	22.43	5.87	2.63	0.2887
FR84A	7.82	2.86	1.62	19.51	5.32	2.65	0.3003
FR84B	13.14	5.98	3.86	24.04	8.99	5.43	0.3129
FR89	10.05	3.96	2.47	22.26	6.87	3.72	0.3038
FR94	8.23	1.93	0.78	20.43	4.94	1.91	0.3036
GE73	8.32	2.56	1.28	19.79	5.31	2.41	0.2850
GE78	7.33	1.78	0.77	18.81	4.49	1.77	0.2764
GE81	6.60	1.86	0.88	19.13	4.40	1.82	0.2592
GE83	5.85	1.14	0.39	18.35	3.75	1.24	0.2676
GE84	6.64	1.40	0.51	18.03	4.05	1.44	0.2612
GE89	6.82	2.17	1.05	17.96	4.59	2.04	0.2609
GE94	8.01	2.44	1.21	19.09	5.06	2.29	0.2749
HU91	5.94	2.68	1.67	16.69	4.65	2.49	0.2887
HU94	8.62	2.67	1.33	17.46	4.98	2.41	0.3178
IE87	8.98	2.74	1.62	20.96	5.82	2.76	0.3361
IE94	7.50	1.53	0.71	24.19	4.77	1.71	0.3539
IE95	8.28	1.86	0.87	25.07	5.16	1.95	0.3516
IE96	7.22	1.65	0.65	27.17	5.27	1.78	0.3411
IS79	14.51	2.76	0.78	27.29	7.26	2.63	0.3307
IS86	11.81	2.66	0.97	26.74	6.89	2.60	0.3242
IS92	12.08	2.54	0.81	12.08	2.58	0.81	0.3314
IS97	16.88	4.25	1.70	28.37	8.79	3.83	0.3602
IT86	9.66	2.52	1.03	23.89	5.91	2.38	0.3053
IT91	9.11	2.34	1.06	23.19	5.76	2.32	0.2972
IT95	12.50	4.56	2.46	26.01	8.17	4.14	0.3350
LX85	5.21	1.18	0.55	16.53	3.42	1.27	0.2439
LX91	3.85	0.42	0.11	16.96	2.72	0.67	0.2494
LX94	3.86	0.67	0.25	16.44	2.85	0.84	0.2437

(continued)

	Poverty line is 50% of median			Poverty line is 66.67% of median			Gini coefficient
	FGT0	FGT1	FGT2	FGT0	FGT1	FGT2	
MX84	21.97	8.14	4.15	32.85	12.94	6.99	0.4732
MX89	21.10	8.16	4.42	31.49	12.68	7.08	0.5101
MX92	20.51	8.34	4.63	30.99	12.63	7.22	0.5310
MX94	22.19	8.68	4.69	32.53	13.34	7.49	0.5387
MX96	20.79	7.71	4.04	31.60	12.32	6.68	0.5135
MX98	22.62	9.28	5.28	31.85	13.75	8.05	0.5345
NL83	6.93	3.92	2.82	15.75	5.53	3.61	0.2855
NL87	6.12	3.19	2.27	14.09	4.78	2.99	0.2730
NL91	6.28	2.65	1.70	16.29	4.52	2.48	0.2856
NL94	8.05	3.58	2.32	17.99	5.72	3.31	0.2752
NW79	5.43	2.09	1.20	19.12	4.10	1.95	0.2464
NW86	4.92	1.73	0.91	20.60	4.42	1.78	0.2427
NW91	4.69	1.93	1.14	17.89	4.17	1.91	0.2408
NW95	5.85	2.27	1.28	18.39	4.62	2.17	0.2500
PL86	7.14	1.54	0.55	20.35	4.46	1.57	0.2634
PL92	7.30	1.63	0.65	18.52	4.31	1.63	0.2789
PL99	8.01	1.94	0.76	18.58	4.68	1.85	0.2918
RC81	6.11	1.04	0.31	18.21	3.74	1.18	0.2794
RC86	5.82	1.13	0.38	17.81	3.65	1.21	0.2817
RC91	7.24	1.39	0.43	19.63	4.26	1.44	0.2919
RC95	7.87	1.55	0.50	19.94	4.56	1.58	0.2940
RL92	18.18	5.60	2.81	31.09	10.37	5.08	0.4541
RL95	19.82	9.53	6.20	29.45	13.20	8.47	0.4649
SI97	8.55	2.43	1.05	18.70	5.12	2.22	0.2560
SI99	8.78	2.55	1.21	19.89	5.31	2.37	0.2575
SP80	11.45	3.43	1.60	24.43	7.04	3.17	0.3319
SP90	9.12	2.52	1.18	21.19	5.63	2.41	0.3140
SV92	1.58	0.37	0.16	7.21	1.19	0.40	0.1811
SW67	18.95	12.95	9.90	27.62	15.38	11.75	0.3459
SW75	6.69	2.31	1.34	19.42	4.62	2.20	0.2296
SW81	5.59	2.06	1.10	12.82	3.72	1.86	0.1972
SW87	7.97	3.28	1.87	17.17	5.46	2.93	0.2285
SW92	7.42	2.95	1.68	15.91	4.98	2.65	0.2371
SW95	8.69	3.92	2.37	15.14	5.81	3.45	0.2322
UK69	5.53	1.01	0.37	21.23	3.97	1.22	0.2910
UK74	8.02	1.21	0.40	22.36	4.70	1.48	0.2850
UK79	6.30	1.50	0.73	21.91	4.51	1.65	0.2756
UK86	6.79	2.65	1.68	19.59	5.09	2.58	0.3010
UK91	12.14	2.83	1.24	27.12	6.97	2.82	0.3473
UK94	8.91	2.31	1.15	23.25	5.69	2.35	0.3469
UK95	10.62	3.05	1.63	24.34	6.63	3.00	0.3421
UK99	11.25	2.98	1.43	25.18	6.79	2.91	0.3576
US74	16.74	6.14	3.35	27.54	10.08	5.44	0.3408
US79	17.17	6.13	3.29	27.72	10.16	5.43	0.3253
US86	18.69	6.87	3.63	29.27	11.13	6.01	0.3508
US91	18.27	6.55	3.50	29.21	10.84	5.79	0.3540
US94	18.98	7.23	4.05	29.92	11.54	6.40	0.3789
US97	17.38	5.91	3.06	28.98	10.26	5.28	0.3856
US00	17.26	5.57	2.71	28.74	9.95	4.94	0.3772

TABLE 2: Growth effect, inequality effect and inequality-growth tradeoff index (p.l. is 50% of median)

	poverty gap ratio			severity of poverty		
	growth effect	inequality effect	IGTI	growth effect	inequality effect	IGTI
AS81	-1.96	4.66	2.37	-1.61	5.46	3.38
AS85	-2.01	4.83	2.40	-1.60	5.58	3.48
AS89	-1.94	4.88	2.52	-1.60	5.75	3.61
AS94	-1.44	4.13	2.86	-1.24	5.14	4.15
AT87	-4.09	6.80	1.66	-3.40	7.14	2.10
AT95	-1.25	3.58	2.86	-1.34	4.82	3.61
BE85	-2.63	5.24	1.99	-1.72	5.35	3.11
BE88	-1.98	4.55	2.29	-1.38	5.03	3.63
BE92	-1.62	4.01	2.48	-1.17	4.65	3.98
BE97	-2.31	5.04	2.19	-1.63	5.44	3.33
CH82	-2.03	5.10	2.51	-1.64	5.93	3.61
CH92	-1.03	3.63	3.52	-0.93	4.79	5.17
CN71	-1.39	4.09	2.95	-1.31	5.28	4.04
CN75	-1.91	4.52	2.37	-1.67	5.44	3.26
CN81	-2.11	4.90	2.32	-1.92	5.91	3.07
CN87	-2.24	5.11	2.28	-2.15	6.26	2.91
CN91	-2.21	5.02	2.27	-2.10	6.14	2.92
CN94	-2.37	5.31	2.24	-2.21	6.38	2.89
CN97	-2.24	5.11	2.28	-2.16	6.28	2.90
CN98	-2.17	5.13	2.36	-2.07	6.30	3.04
CZ92	-3.37	6.28	1.87	-3.04	7.10	2.34
CZ96	-2.91	6.29	2.16	-2.64	7.28	2.75
DK87	-1.44	3.81	2.64	-1.12	4.60	4.09
DK92	-1.36	3.67	2.71	-1.21	4.64	3.84
DK95	-1.06	3.39	3.19	-1.00	4.48	4.47
DK97	-1.18	3.52	2.99	-1.12	4.60	4.13
EE00	-2.19	6.26	2.85	-1.91	7.44	3.89
FI87	-2.93	5.36	1.83	-2.89	6.43	2.22
FI91	-2.99	5.47	1.83	-2.42	5.94	2.46
FI95	-3.68	6.61	1.79	-3.13	7.14	2.28
FI00	-3.19	6.16	1.93	-2.53	6.58	2.60
FR79	-1.95	4.94	2.53	-1.73	5.98	3.46
FR81	-2.26	5.02	2.22	-1.93	5.84	3.03
FR84A	-1.74	4.66	2.68	-1.53	5.71	3.74
FR84B	-1.20	3.65	3.05	-1.10	4.74	4.32
FR89	-1.54	4.20	2.73	-1.21	5.05	4.17
FR94	-3.27	6.81	2.08	-2.94	7.71	2.62
GE73	-2.25	5.13	2.28	-2.00	6.09	3.04
GE78	-3.11	6.23	2.00	-2.60	6.86	2.63
GE81	-2.55	5.27	2.07	-2.23	6.09	2.73
GE83	-4.11	7.48	1.82	-3.85	8.42	2.19
GE84	-3.73	6.83	1.83	-3.49	7.76	2.22
GE89	-2.15	4.79	2.23	-2.13	5.97	2.80
GE94	-2.28	5.09	2.23	-2.03	6.02	2.96
HU91	-1.22	3.96	3.24	-1.21	5.27	4.35
HU94	-2.23	5.61	2.52	-2.01	6.74	3.35
IE87	-2.28	5.87	2.57	-1.38	6.01	4.35
IE94	-3.89	8.85	2.28	-2.31	7.92	3.43
IE95	-3.46	8.07	2.33	-2.26	7.75	3.43
IE96	-3.37	7.61	2.26	-3.06	8.66	2.83
IS79	-4.27	8.26	1.94	-5.06	10.73	2.12
IS86	-3.44	7.04	2.05	-3.49	8.47	2.43
IS92	-3.76	7.76	2.06	-4.27	9.90	2.32
IS97	-2.98	6.72	2.26	-3.00	8.20	2.73
IT86	-2.83	6.03	2.13	-2.87	7.39	2.57
IT91	-2.90	6.03	2.08	-2.40	6.67	2.78
IT95	-1.74	4.62	2.65	-1.70	5.89	3.46

(continued)

	poverty gap ratio			severity of poverty		
	growth effect	inequality effect	IGTI	growth effect	inequality effect	IGTI
LX85	-3.43	6.39	1.86	-2.26	6.19	2.73
LX91	-8.09	12.40	1.53	-5.64	10.58	1.88
LX94	-4.78	8.12	1.70	-3.38	7.62	2.26
MX84	-1.70	6.22	3.66	-1.92	8.57	4.47
MX89	-1.59	6.67	4.21	-1.70	9.11	5.37
MX92	-1.46	6.92	4.74	-1.60	9.67	6.04
MX94	-1.56	7.19	4.62	-1.70	9.97	5.85
MX96	-1.70	7.09	4.18	-1.82	9.62	5.28
MX98	-1.44	6.81	4.73	-1.52	9.37	6.18
NL83	-0.77	3.32	4.31	-0.78	4.64	5.94
NL87	-0.92	3.54	3.84	-0.80	4.71	5.86
NL91	-1.37	4.14	3.01	-1.12	5.13	4.58
NL94	-1.25	3.82	3.06	-1.09	4.86	4.48
NW79	-1.59	4.03	2.53	-1.47	5.06	3.43
NW86	-1.85	4.21	2.28	-1.78	5.27	2.96
NW91	-1.43	3.79	2.66	-1.38	4.89	3.54
NW95	-1.58	3.99	2.53	-1.54	5.11	3.31
PL86	-3.64	6.66	1.83	-3.57	7.80	2.18
PL92	-3.49	6.80	1.95	-3.03	7.49	2.48
PL99	-3.14	6.46	2.06	-3.07	7.70	2.50
RC81	-4.88	8.81	1.81	-4.73	9.94	2.10
RC86	-4.17	7.88	1.89	-3.93	8.88	2.26
RC91	-4.22	8.02	1.90	-4.42	9.62	2.18
RC95	-4.07	7.81	1.92	-4.26	9.41	2.21
RL92	-2.25	7.01	3.12	-1.99	8.39	4.22
RL95	-1.08	4.80	4.45	-1.07	6.63	6.16
SI97	-2.52	5.15	2.04	-2.61	6.43	2.46
SI99	-2.44	4.98	2.04	-2.22	5.88	2.65
SP80	-2.33	5.63	2.41	-2.29	6.96	3.04
SP90	-2.62	6.00	2.29	-2.27	6.90	3.04
SV92	-3.27	5.85	1.79	-2.53	6.15	2.43
SW67	-0.46	2.58	5.57	-0.61	3.83	6.22
SW75	-1.90	4.16	2.19	-1.45	4.76	3.29
SW81	-1.72	3.87	2.25	-1.73	4.94	2.86
SW87	-1.43	3.58	2.51	-1.51	4.74	3.13
SW92	-1.51	3.82	2.52	-1.52	4.95	3.25
SW95	-1.22	3.42	2.80	-1.31	4.60	3.52
UK69	-4.45	8.38	1.88	-3.51	8.45	2.41
UK74	-5.61	9.49	1.69	-4.13	8.88	2.15
UK79	-3.20	6.29	1.97	-2.09	6.15	2.95
UK86	-1.56	4.48	2.88	-1.16	5.30	4.57
UK91	-3.29	7.28	2.21	-2.55	7.65	3.00
UK94	-2.86	6.86	2.40	-2.02	7.10	3.52
UK95	-2.48	6.09	2.45	-1.73	6.45	3.72
UK99	-2.78	6.70	2.41	-2.17	7.28	3.36
US74	-1.73	4.50	2.60	-1.67	5.70	3.42
US79	-1.80	4.42	2.45	-1.72	5.55	3.22
US86	-1.72	4.52	2.63	-1.78	5.89	3.31
US91	-1.79	4.70	2.63	-1.75	5.97	3.42
US94	-1.62	4.70	2.89	-1.58	6.04	3.84
US97	-1.94	5.36	2.76	-1.86	6.73	3.62
US00	-2.10	5.50	2.62	-2.11	6.96	3.31

TABLE 3: Growth effect, inequality effect and inequality-growth tradeoff index (p.l. is 66.67% of median)

	poverty gap ratio			severity of poverty		
	growth effect	inequality effect	IGTI	growth effect	inequality effect	IGTI
AS81	-2.62	3.44	1.32	-2.28	3.89	1.71
AS85	-2.88	3.73	1.30	-2.59	4.23	1.63
AS89	-2.60	3.67	1.41	-2.23	4.14	1.85
AS94	-2.17	3.25	1.50	-1.71	3.63	2.12
AT87	-4.05	4.05	1.00	-4.05	4.65	1.15
AT95	-1.78	2.69	1.51	-1.42	3.08	2.17
BE85	-3.69	3.94	1.07	-2.84	4.03	1.42
BE88	-3.56	3.93	1.10	-2.53	3.91	1.55
BE92	-3.09	3.51	1.14	-2.03	3.48	1.71
BE97	-2.98	3.65	1.23	-2.43	3.95	1.63
CH82	-2.34	3.56	1.52	-2.07	4.11	1.99
CH92	-1.80	3.02	1.68	-1.23	3.33	2.70
CN71	-1.57	2.85	1.82	-1.49	3.51	2.36
CN75	-1.85	2.87	1.55	-1.83	3.52	1.92
CN81	-2.22	3.22	1.45	-2.12	3.84	1.81
CN87	-2.32	3.32	1.43	-2.23	3.96	1.78
CN91	-2.27	3.25	1.43	-2.16	3.86	1.79
CN94	-2.32	3.35	1.45	-2.26	4.02	1.78
CN97	-2.32	3.33	1.44	-2.20	3.95	1.79
CN98	-2.30	3.40	1.48	-2.16	4.02	1.86
CZ92	-6.19	5.73	0.93	-4.69	5.40	1.15
CZ96	-3.97	4.80	1.21	-3.30	5.05	1.53
DK87	-2.55	3.18	1.25	-1.87	3.37	1.81
DK92	-2.54	3.12	1.23	-1.67	3.20	1.92
DK95	-1.06	2.28	2.15	-1.00	2.86	2.85
DK97	-2.11	2.92	1.38	-1.38	3.09	2.23
EE00	-2.50	4.45	1.78	-2.20	5.14	2.33
FI87	-3.63	3.70	1.02	-3.24	4.05	1.25
FI91	-3.67	3.75	1.02	-3.24	4.08	1.26
FI95	-3.68	4.04	1.10	-3.13	4.33	1.38
FI00	-4.30	4.57	1.06	-3.75	4.87	1.30
FR79	-2.90	3.93	1.36	-2.39	4.30	1.80
FR81	-2.82	3.58	1.27	-2.47	4.01	1.63
FR84A	-2.67	3.76	1.41	-2.01	4.02	2.00
FR84B	-1.67	2.75	1.64	-1.31	3.17	2.41
FR89	-2.24	3.25	1.45	-1.70	3.57	2.11
FR94	-3.14	4.18	1.33	-3.18	4.98	1.57
GE73	-2.73	3.62	1.33	-2.41	4.10	1.71
GE78	-3.19	3.95	1.24	-3.07	4.57	1.49
GE81	-3.35	3.84	1.15	-2.84	4.16	1.46
GE83	-3.89	4.43	1.14	-4.05	5.25	1.29
GE84	-3.45	4.00	1.16	-3.62	4.79	1.32
GE89	-2.91	3.55	1.22	-2.51	3.94	1.57
GE94	-2.77	3.58	1.29	-2.42	4.03	1.66
HU91	-2.59	3.68	1.42	-1.73	3.79	2.19
HU94	-2.51	3.88	1.55	-2.13	4.40	2.06
IE87	-2.60	4.10	1.58	-2.22	4.64	2.09
IE94	-4.08	5.85	1.43	-3.59	6.34	1.77
IE95	-3.85	5.55	1.44	-3.28	5.96	1.81
IE96	-4.16	5.57	1.34	-3.91	6.23	1.59
IS79	-2.76	3.95	1.43	-3.51	5.32	1.51
IS86	-2.88	3.99	1.38	-3.29	5.08	1.54
IS92	-3.68	4.82	1.31	-4.38	6.20	1.42
IS97	-2.23	3.68	1.65	-2.59	4.81	1.85
IT86	-3.04	3.97	1.30	-2.96	4.64	1.57
IT91	-3.03	3.89	1.28	-2.96	4.55	1.54
IT95	-2.18	3.36	1.54	-1.95	3.93	2.01

(continued)

	poverty gap ratio			severity of poverty		
	growth effect	inequality effect	IGTI	growth effect	inequality effect	IGTI
LX85	-3.83	4.20	1.10	-3.38	4.57	1.35
LX91	-5.25	5.31	1.01	-6.07	6.57	1.08
LX94	-4.77	4.88	1.02	-4.78	5.56	1.16
MX84	-1.54	4.04	2.63	-1.70	5.44	3.19
MX89	-1.48	4.46	3.01	-1.58	6.00	3.79
MX92	-1.45	4.82	3.31	-1.50	6.45	4.30
MX94	-1.44	4.82	3.35	-1.56	6.58	4.21
MX96	-1.57	4.70	3.00	-1.69	6.32	3.75
MX98	-1.32	4.56	3.46	-1.42	6.25	4.41
NL83	-1.85	3.09	1.67	-1.06	3.24	3.05
NL87	-1.95	3.19	1.63	-1.20	3.37	2.81
NL91	-2.60	3.68	1.41	-1.64	3.71	2.26
NL94	-2.14	3.17	1.48	-1.46	3.38	2.32
NW79	-3.67	3.92	1.07	-2.20	3.63	1.65
NW86	-3.66	3.78	1.03	-2.98	3.97	1.33
NW91	-3.29	3.63	1.10	-2.37	3.68	1.55
NW95	-2.98	3.47	1.16	-2.26	3.64	1.61
PL86	-3.56	4.04	1.13	-3.67	4.77	1.30
PL92	-3.30	4.09	1.24	-3.28	4.80	1.46
PL99	-2.97	3.94	1.33	-3.05	4.74	1.55
RC81	-3.87	4.63	1.20	-4.36	5.74	1.32
RC86	-3.89	4.65	1.20	-4.02	5.50	1.37
RC91	-3.61	4.49	1.25	-3.92	5.49	1.40
RC95	-3.37	4.31	1.28	-3.77	5.37	1.43
RL92	-2.00	4.42	2.21	-2.08	5.65	2.71
RL95	-1.23	3.50	2.84	-1.12	4.50	4.03
SI97	-2.65	3.31	1.25	-2.61	3.92	1.50
SI99	-2.74	3.31	1.21	-2.48	3.77	1.52
SP80	-2.47	3.74	1.52	-2.45	4.52	1.85
SP90	-2.76	3.96	1.43	-2.67	4.67	1.75
SV92	-5.05	4.64	0.92	-3.91	4.56	1.17
SW67	-0.80	2.01	2.52	-0.62	2.47	4.00
SW75	-3.21	3.39	1.06	-2.20	3.38	1.54
SW81	-2.45	2.87	1.17	-2.01	3.18	1.58
SW87	-2.15	2.72	1.27	-1.72	3.04	1.77
SW92	-2.20	2.89	1.32	-1.75	3.22	1.84
SW95	-1.61	2.48	1.54	-1.37	2.91	2.13
UK69	-4.35	5.09	1.17	-4.50	5.97	1.33
UK74	-3.75	4.39	1.17	-4.37	5.55	1.27
UK79	-3.86	4.37	1.13	-3.46	4.79	1.39
UK86	-2.85	3.97	1.39	-1.94	4.04	2.08
UK91	-2.89	4.29	1.49	-2.95	5.19	1.76
UK94	-3.09	4.63	1.50	-2.84	5.30	1.87
UK95	-2.67	4.10	1.54	-2.41	4.73	1.96
UK99	-2.71	4.26	1.58	-2.66	5.10	1.92
US74	-1.73	2.94	1.70	-1.71	3.64	2.13
US79	-1.73	2.82	1.63	-1.74	3.49	2.00
US86	-1.63	2.89	1.78	-1.71	3.67	2.15
US91	-1.69	3.01	1.78	-1.74	3.79	2.17
US94	-1.59	3.09	1.94	-1.61	3.91	2.44
US97	-1.83	3.44	1.88	-1.89	4.36	2.31
US00	-1.89	3.43	1.81	-2.03	4.38	2.16

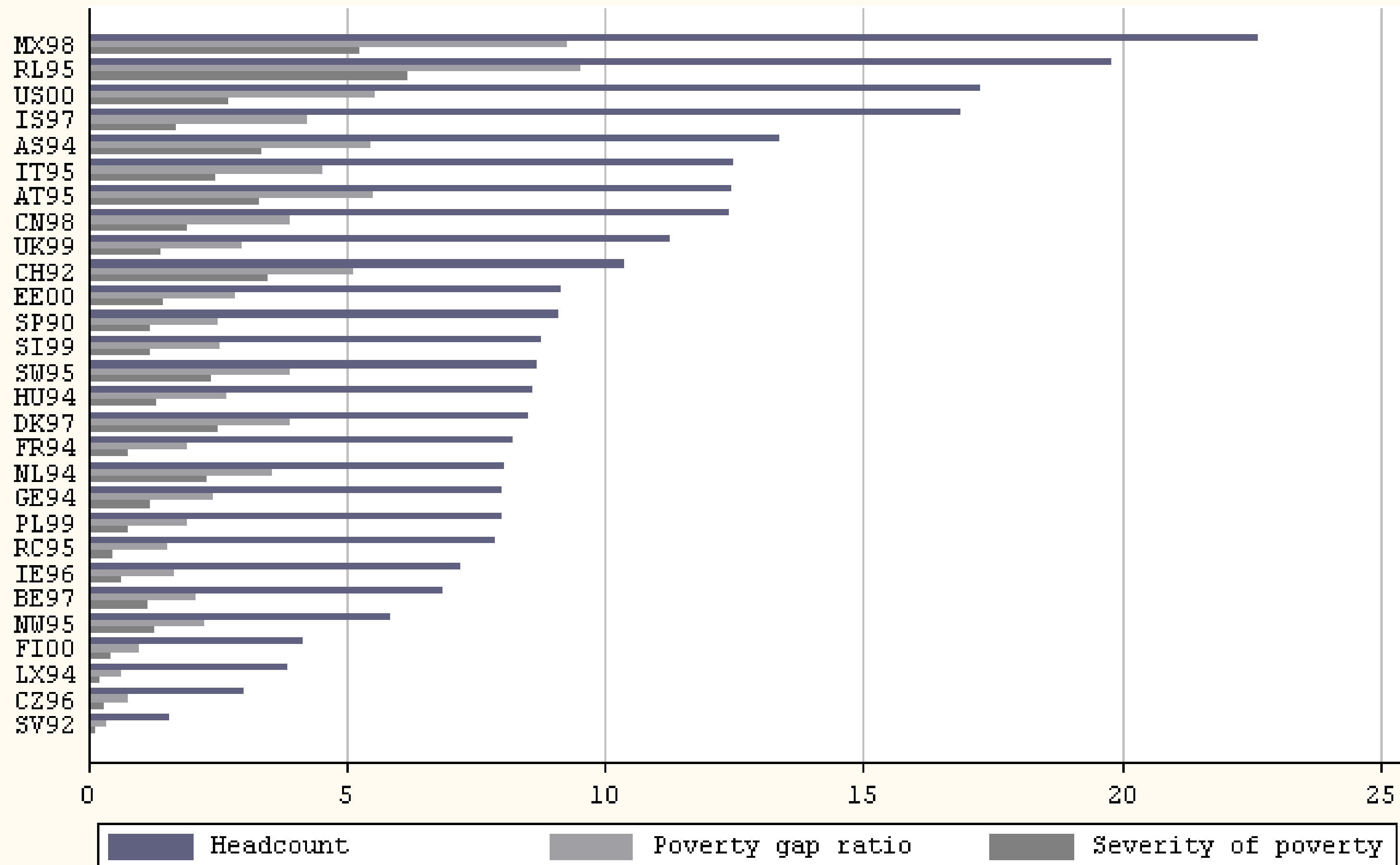
FIGURE 1: Poverty, Foster-Greer-Thorbecke class of indices
p.l. is 50% of median
MX98
RL95
US00
IS97
AS94
IT95
AT95
CN98
UK99
CH92
EE00
SP90
SI99
SW95
HU94
DK97
FR94
NL94
GE94
PL99
RC95
IE96
BE97
NW95
FI00
LX94
CZ96
SV92
0
5
10
15
20
25
Headcount
Poverty gap ratio
Severity of poverty

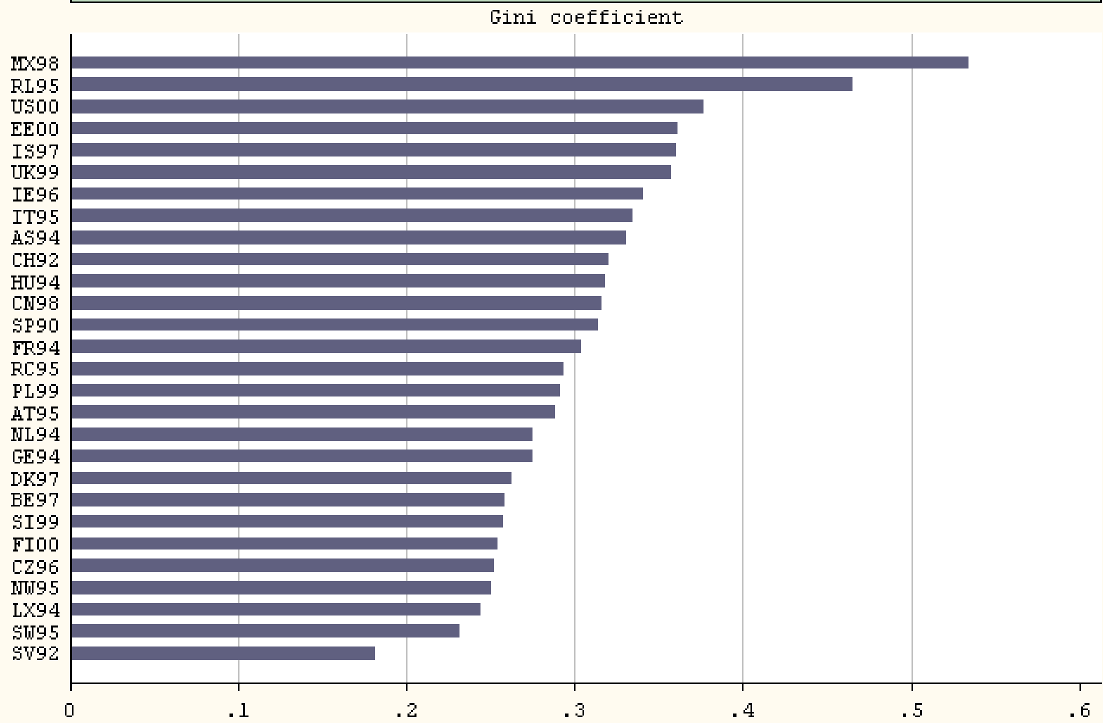
FIGURE 2: Inequality of household disposable income
Gini coefficient
MX98
RL95
US00
EE00
IS97
UK99
IE96
IT95
AS94
CH92
HU94
CN98
SP90
FR94
RC95
PL99
AT95
NL94
GE94
DK97
BE97
SI99
FI00
CZ96
NW95
LX94
SW95
SV92
0
.1
.2
.3
.4
.5
.6

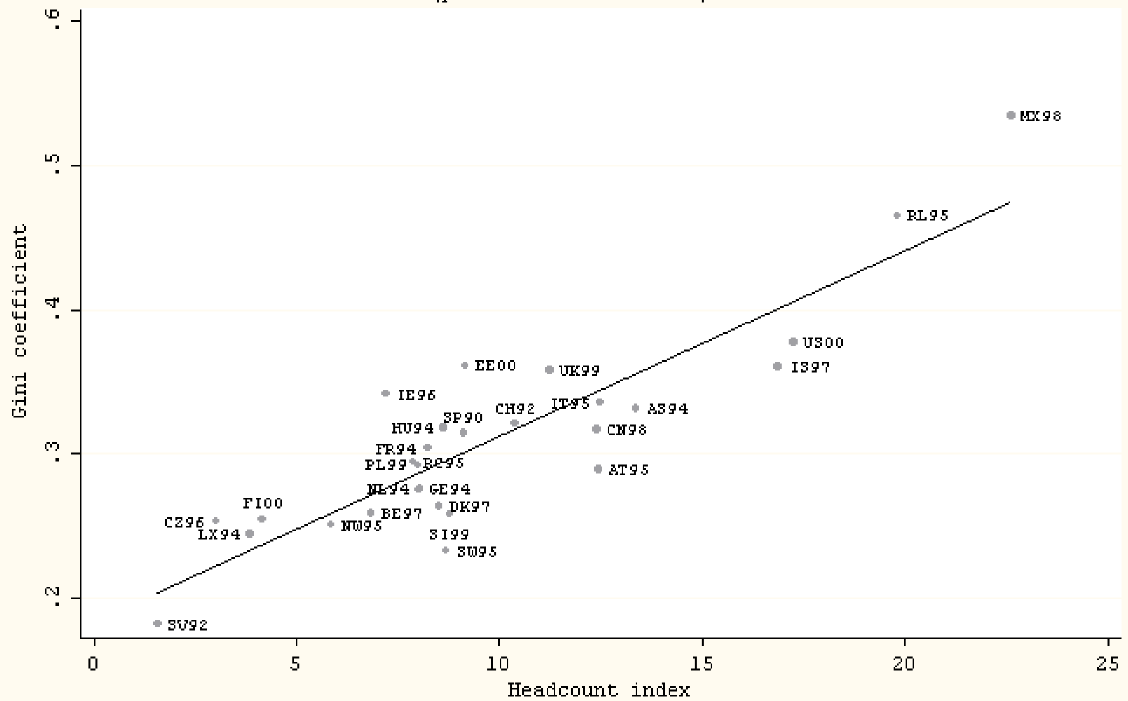
FIGURE 3: Poverty and income inequality
Headcount index (p.l. is 50% of median) and Gini coefficient
Gini coefficient
.2
.3
.4
.5
.6
MX98
RL95
US00
IS97
EE00
UK99
IE96
CH92
IT95
AS94
SP90
HU94
CN98
FR94
PL99
RC95
AT95
NL94
GE94
FI00
DK97
BE97
CZ96
NW95
LX94
SI99
SW95
SV92
0
5
10
15
20
25
Headcount index

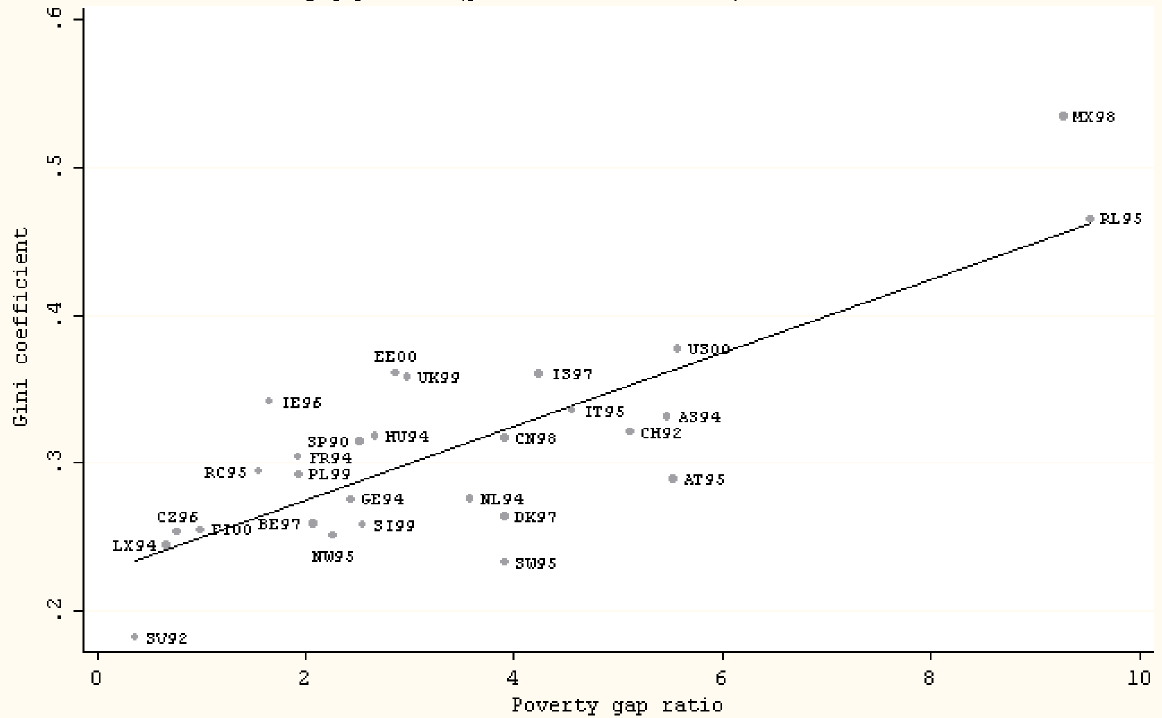
FIGURE 4: Poverty and income inequality
Poverty gap ratio (p.l. is 50% of median) and Gini coefficient
Gini coefficient
Poverty gap ratio
MX98
RL95
US00
EE00
UK99
IS97
IE96
IT95
AS94
CH92
SP90
HU94
CN98
FR94
RC95
PL99
AT95
GE94
NL94
CZ96
BE97
DK97
FI00
SI99
LX94
NW95
SW95
SV92

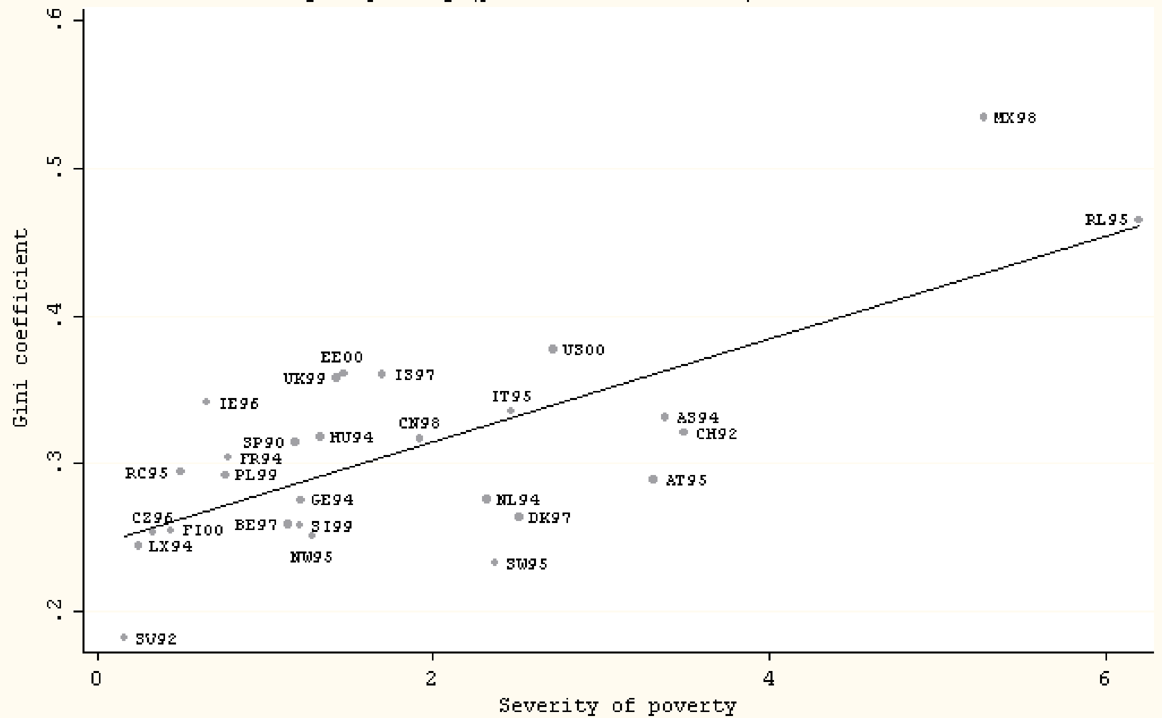
FIGURE 5: Poverty and income inequality
Severity of poverty (p.l. is 50% of median) and Gini coefficient
Gini coefficient
Severity of poverty
MX98
RL95
US00
EE00
UK99
IS97
IE96
IT95
AS94
CH92
SP90
HU94
CN98
FR94
RC95
PL99
AT95
GE94
NL94
CZ96
BE97
DK97
FI00
SI99
LX94
NW95
SW95
SV92

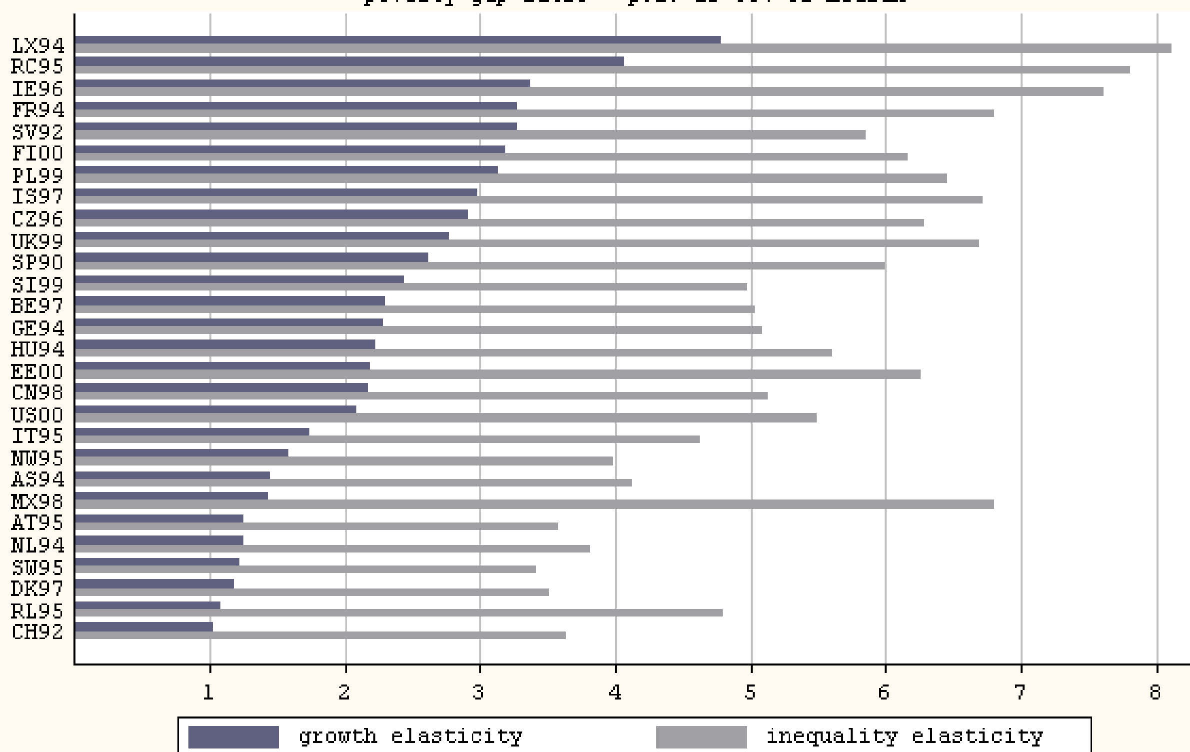
FIGURE 6: Growth and inequality elasticities
poverty gap ratio - p.l. is 50% of median
LX94
RC95
IE96
FR94
SV92
FI00
PL99
IS97
CZ96
UK99
SP90
SI99
BE97
GE94
HU94
EE00
CN98
US00
IT95
NW95
AS94
MX98
AT95
NL94
SW95
DK97
RL95
CH92
1
2
3
4
5
6
7
8
growth elasticity
inequality elasticity

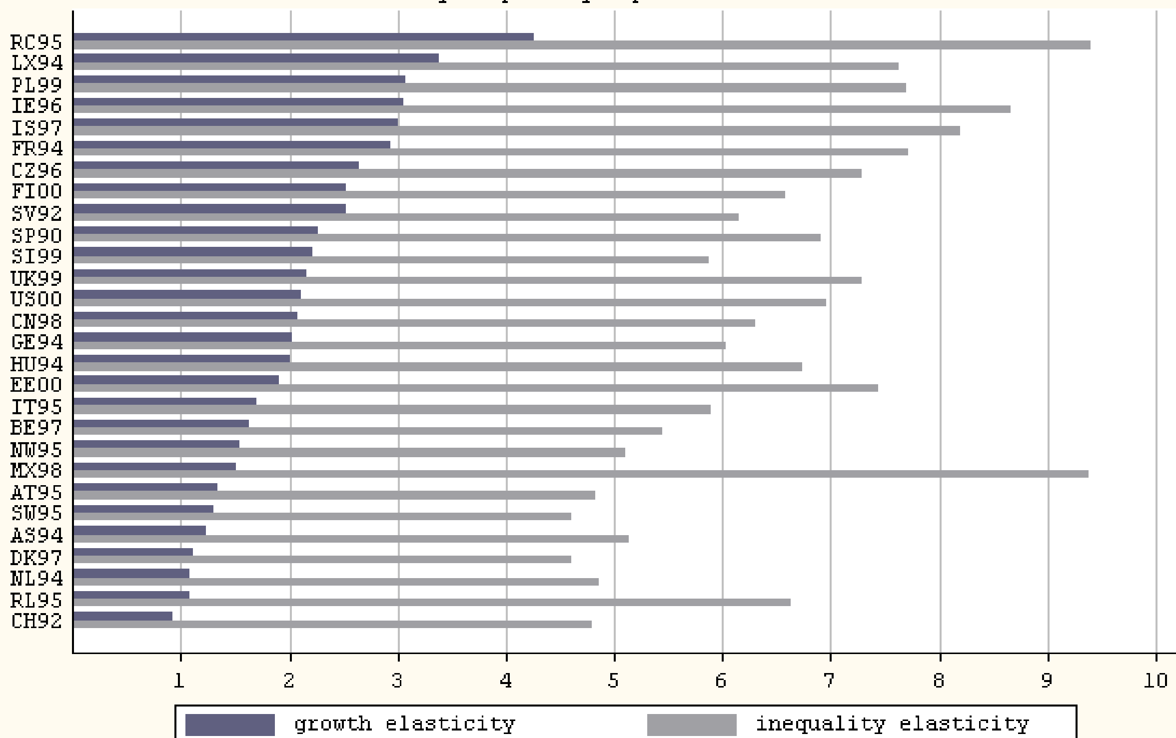
FIGURE 7: Growth and inequality elasticities
severity of poverty - p.l. is 50% of median
RC95
LX94
PL99
IE96
IS97
FR94
CZ96
FI00
SV92
SP90
SI99
UK99
US00
CN98
GE94
HU94
EE00
IT95
BE97
NW95
MX98
AT95
SW95
AS94
DK97
NL94
RL95
CH92
1
2
3
4
5
6
7
8
9
10
growth elasticity
inequality elasticity

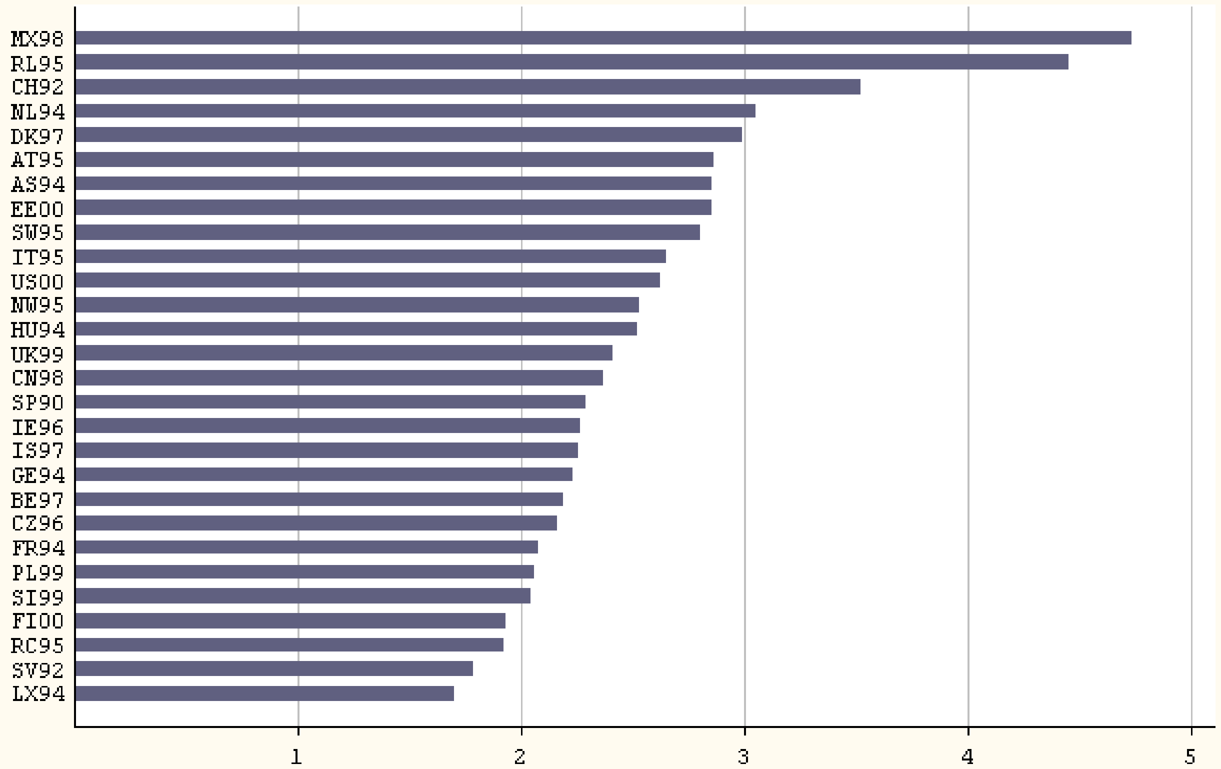
FIGURE 8: Inequality-growth tradeoff index (IGTI)
poverty gap ratio - p.l. is 50% of median
MX98
RL95
CH92
NL94
DK97
AT95
AS94
EE00
SW95
IT95
US00
NW95
HU94
UK99
CN98
SP90
IE96
IS97
GE94
BE97
CZ96
FR94
PL99
SI99
FI00
RC95
SV92
LX94
1
2
3
4
5

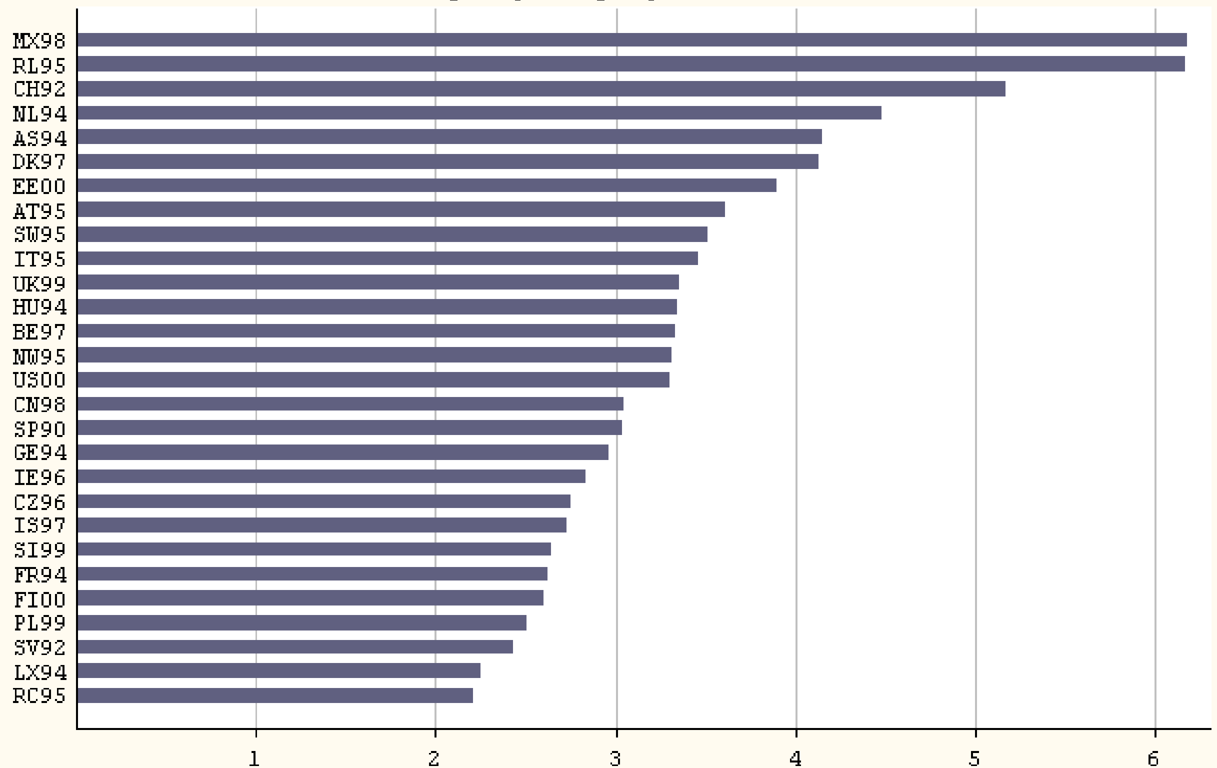
FIGURE 9: Inequality-growth tradeoff index (IGTI)
severity of poverty - p.l. is 50% of median
MX98
RL95
CH92
NL94
AS94
DK97
EE00
AT95
SW95
IT95
UK99
HU94
BE97
NW95
US00
CN98
SP90
GE94
IE96
CZ96
IS97
SI99
FR94
FI00
PL99
SV92
LX94
RC95
1
2
3
4
5
6

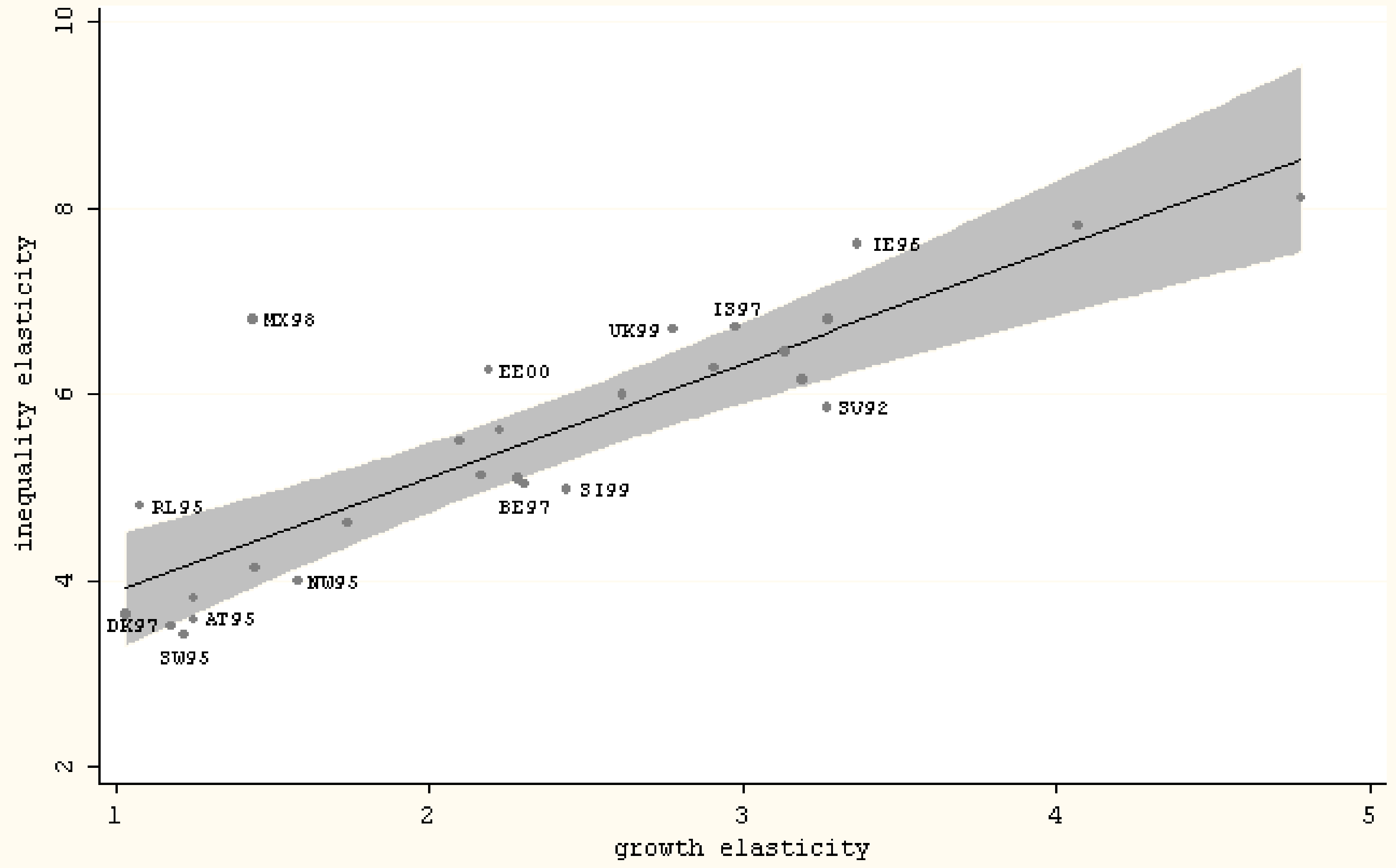
FIGURE 10: Scatterplot of growth and inequality elasticities
poverty gap ratio - p.l. is 50% of median
inequality elasticity
growth elasticity
10
8
6
4
2
1
2
3
4
5
IE96
IS97
UK99
MX98
EE00
SV92
SI99
BE97
RL95
NW95
DK97
AT95
SW95

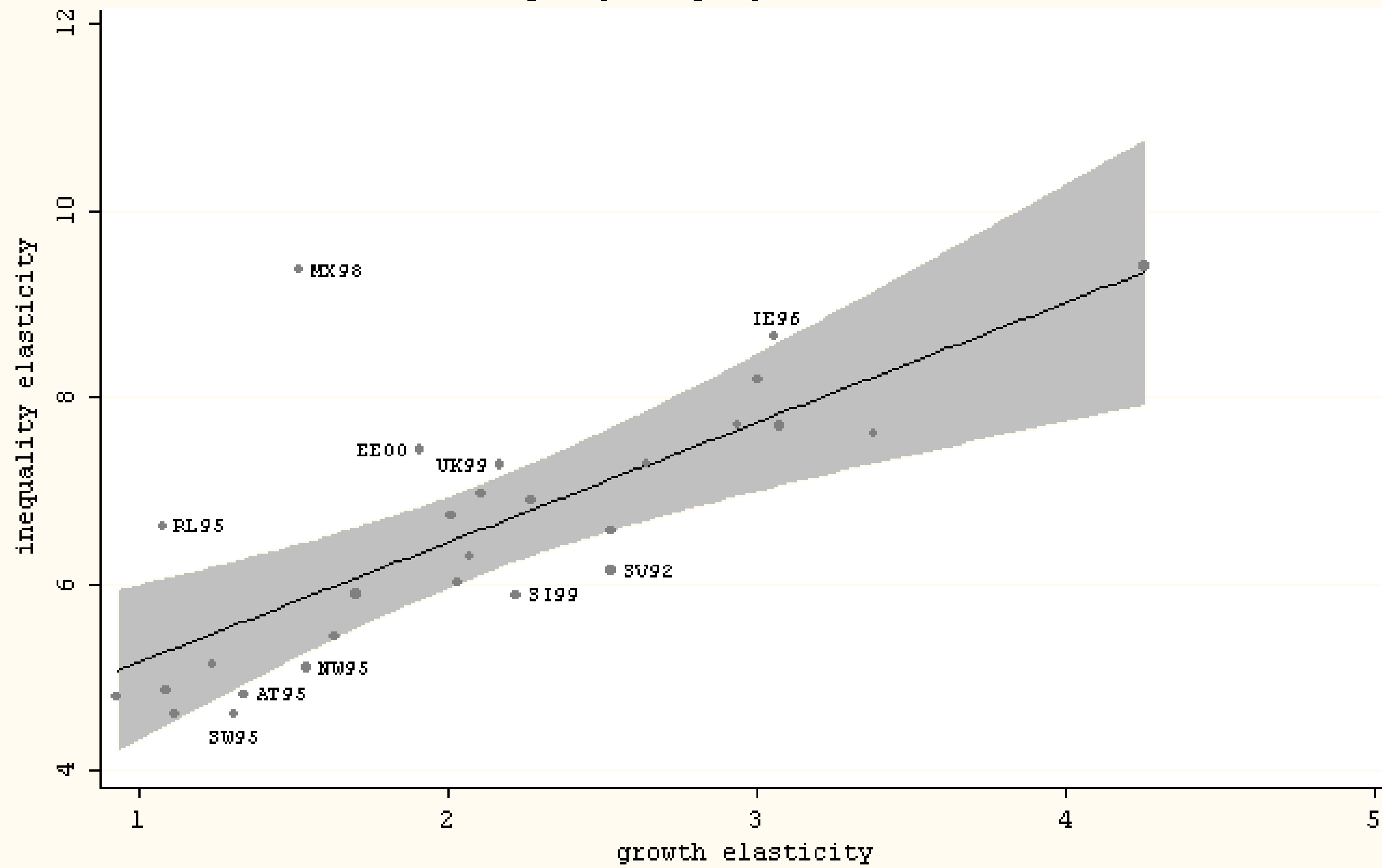
FIGURE 11: Scatterplot of growth and inequality elasticities
severity of poverty - p.l. is 50% of median
inequality elasticity
growth elasticity
12
10
8
6
4
1
2
3
4
5
MX98
IE96
EE00
UK99
PL95
SV92
SI99
NW95
AT95
SW95

ANNEX: LIST OF LIS DATASETS

COUNTRY	CODE	YEARS
Australia	AS	1981, 1985, 1989, 1994
Austria	AT	1987, 1995
Belgium	BE	1985, 1988, 1992, 1997
Canada	CN	1971, 1975, 1981, 1987, 1991, 1994, 1997, 1998
Czech Republic	CZ	1992, 1996
Denmark	DK	1987, 1992, 1995, 1997
Estonia	EE	2000
Finland	FI	1987, 1991, 1995, 2000
France	FR	1979, 1981, 1984(A), 1984(B), 1989, 1994
Germany	GE	1973, 1978, 1981, 1983, 1984, 1989, 1994
Hungary	HU	1991, 1994
Ireland	IE	1987, 1994, 1994, 1995, 1996
Israel	IS	1979, 1986, 1992, 1997
Italy	IT	1986, 1991, 1995
Luxembourg	LX	1985, 1991, 1994
Mexico	MX	1984, 1989, 1992, 1994, 1996, 1998
Netherlands	NL	1983, 1987, 1991, 1994
Norway	NW	1979, 1986, 1991, 1995
Poland	PL	1986, 1992, 1999
Taiwan (R.O.C.)	RC	1981, 1986, 1991, 1995
Russia	RL	1992, 1995
Slovak Republic	SV	1992
Slovenia	SI	1997, 1999
Spain	SP	1980, 1990
Sweden	SW	1967, 1975, 1981, 1987, 1992, 1995
Switzerland	CH	1982, 1992
United Kingdom	UK	1969, 1974, 1979, 1986, 1991, 1994, 1995, 1999
United States	US	1974, 1979, 1986, 1991, 1994, 1997, 2000