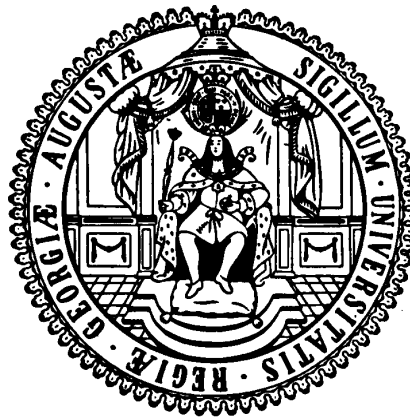# Ibero-Amerika Institut für Wirtschaftsforschung
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The ‚Efficiency' of Equity

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Abstract

In standard neo-classical economics, efficiency and equity issues are largely treated as separate and separable issues. In this paper, I will discuss findings from four strands of literature that challenge this separability and in fact suggest that greater equity will promote greater efficiency in the sense of maximizing well-being in a society. There four strands refer to findings from the experimental literature on the importance of equity or fairness, the subjective well-being literature on the importance of relative incomes and inequality on subjective well-being, the distribution-adjusted well-being literature that combines measures of mean incomes with measures of income inequality to derive at welfare judgements across space and time, and the literature on the relationship between income and gender inequality on economic growth. Some implications for research and policy are explored.

Keywords: efficiency, equity, experimental economics, subjective well-being

JEL code: I31, D5, C9.

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1. Introduction

In standard neo-classical economics, efficiency and equity issues are largely treated as separate and separable issues. This is formalized in the two laws of welfare economics where the first law is focused on efficiency and the second law addresses the possibility to achieve redistribution while maintaining efficiency. The main reason for this separation lies in the rather narrow criterion of Pareto optimality as the central welfare economic concept, which also the key concept used in the two laws of welfare economics. Since Pareto optimality is really only a criterion of efficiency, welfare economic judgments of different Pareto optimal outcomes are not possible and are seen as normative issues outside the scope of neo-classical economics. The evolution of neo-classical welfare economics leading to this situation has been recounted and analyzed many times and need not detain us here (see e.g. Sen 1999 for an account). The central motivating factor has been the reluctance to engage in inter-personal welfare comparisons, for which, following Robbins (1935), there is no sound scientific foundation. Such welfare comparisons are seen as inherently normative questions are therefore outside the purview of positive economic analysis.

While this is the standard orthodoxy, several applied fields of economics are happily engaging in distributional judgments including implicit inter-personal comparisons (or related devices). For example, the classic case for free trade in the two goods- two factor world of the Heckscher-Ohlin model shows that free trade between a capital rich but labor poor country and a capital poor and labor rich country is beneficial is based on the belief that the larger monetary gains to the winners (capitalists in the capital abundant and labor in the labor abundant country) are able to overcompensate the losers of such trade openness (labor in the capital abundant and capital in the labor abundant country), i.e. it includes a clear judgment about inter-personal welfare comparisons.[2] Similarly, the use of representative agent models in macroeconomics simply assumes away the distributional question, and thereby implies that they can satisfactorily be solved if only efficiency is maintained. Thus in these cases, efficiency in the sense of maximizing overall resources available to society is the central focus, with equity and distributional issues being swept under the carpet.

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[2] No attention is paid to the question whether this compensation actually has taken place either. There is a whole literature on compensation criteria that also allow for inter-personal comparisons of welfare under certain restrictions. See, Arrow (1963) and Sen (1973b) for a discussion.

This is not to say that equity issues have not been analyzed by economists working within and outside the neo-classical tradition. In fact, starting from Atkinson (1970), Sen (1973a), Rawls (1971) to Roemer (1998) a large literature concerned with the analysis of (income) inequality has developed. This literature derived measures of inequality, studied their relationship to conceptions of social welfare and various view of ethics and moral philosophy, and argued about the theoretical merits of various approaches to equity analysis. The impact of this literature has been powerful both in terms of economic analysis as well as applied research. A prominent recent example is the latest World Development Report by the World Bank (2005) which is on *Equity in Development* and operationalizes equity as equality of opportunities, largely as suggested by Roemer (1998).

But the impact on the economics profession of this conceptual inequality literature has been limited and is seen largely as a useful guide to normative economics rather than approaches that challenge the standard focus on efficiency analysis.

The purpose of this essay is to briefly discuss the emergence of four strands of literature that seem to challenge this separation between efficiency and equity issues. With a focus on efficiency issues I refer to economic analyses that implicitly (or explicitly) assume that maximizing total resources in society is also maximizing well-being in that society,[3] while a focus on equity is examining the desirability of various distributional arrangements. In fact, I will argue that these four strands of the literature support the view that equity and distributional considerations are critical for maximizing well-being in a society and thus that, loosely speaking, 'equity' matters for 'efficiency'. These strands are, respectively, the experimental literature on equity and fairness, the empirical literature on subjective well-being, the related empirical literature on inequality-adjusted well-being, and the theoretical and empirical literature on inequality-growth linkages.

The central argument of this essay is that the combined impact of these four strands of the literature points to the need for a serious re-think of the traditional separation between efficiency and equity issues. In fact, a case can be made that equity concerns are central 'positive' economics issues and much of this literature in fact suggests that greater equity is a good way to promote greater efficiency. The essay will briefly outline the key findings from these literatures in turn and then comment on their combined impact for economic analysis.

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[3] For a more detailed discussion, see Grün and Klasen (2003) on the implicit assumptions that are made when linking incomes and well-being in a society.

2) Equity and Fairness: The Experimental Literature

Experimental economics has developed into a major field of research within economics in the past 10-15 years. An important recent focus of experiments has been to test whether key results derived from standard (selfish) utility maximization hold in experiments and whether equity issues play a role in explaining these results. If equity is seen as an important motivating factor for individual behavior, then it would need to be included in standard models of utility maximization and thus an isolated consideration of efficiency, as derived from individualistic utility maximization, would not be tenable.

Three types of experiments are of particular relevance for answering this question. First, there is considerable experimental evidence on highly stylized division games between two players, the most prominent being the so-called dictator and ultimatum games. In the former a dictator decides on the allocation of a pay-off and the other player can only accept or reject the offer made which only affects his/her pay-off. In the latter ultimatum game, an offer is made by the proposer but if the other person rejects the offer, neither receives the pay-off. In both games, the dominant strategy would be for the proposer to offer next to nothing and for the other person to accept but there is a huge literature now demonstrating this is not the case, and this is the case in different cultural backgrounds, different pay-offs, different framings, anonymity of the players, etc. (e.g. Fehr and Schmidt, 1999, World Bank, 2005; Hoffman et al. 1996; Engelman and Strobel, 2005, etc.). In fact, in both games, the proposers offer a substantial share of the pay-off to the other person, with an equal division sometime being the modal offer.[4] The most common explanations for this behavior is a concern for equity or fairness and different versions of such models have been proposed (e.g. Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Charness and Rabin, 2002). While there are differences between these models, all reject the notion that people are individual utility-maximizers and thus reject the separability between efficiency and equity. In fact, greater equity improves individual and aggregate well-being and is thus 'efficient' in this sense.

A second type of experiments are so-called 'leaky bucket' experiments where a trade-off between equity and efficiency is studied explicitly to determine the relative importance of inequality aversion vis-à-vis concerns for efficiency. In such experiments, subjects are asked

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[4] Also, often the other player rejects an offer that is deemed 'unfairly' low.

about the desirability of redistribution from a richer person to a poorer person depending on the sums of money that get 'lost' in the transfer (see Okun, 1975 and Cowell 1985). Based on such experiments one can then deduce the amount of inequality aversion directly. Results from such studies reveal that clearly inequality aversion exists, i.e. that subjects find it desirable to transfer resources from rich to poor persons even is some of the transfer gets lost in the process suggesting again that greater equity is preferred even if the overall pie to be redistributed is shrunk as a result (e.g. Amiel, Creedy, and Hurn, 1999). The magnitude of determined inequality aversion, however, is relatively small, which might be related to some resistance to such 'arbitrary' redistribution schemes (Carlsson et al. 2005).

A third set of experiments are experiments about hypothetical societies where subjects are asked about preferences for income distributions affecting their grandchildren. In these experiments, the set-up is chosen to separate risk aversion from inequality aversion to see whether the reason for inequality aversion is simply a result of risk aversion or whether it exists above and beyond risk aversion.[5] Results by Carlsson et al. (2005) suggest that inequality aversion is quite large, exists over and above risk aversion, is related to ideological preferences and appears to be larger among females.[6]

All three types of experiments convey the clear message that inequality aversion or a concern for fairness is an important motivation of economic agents. Apparently, people are willing to trade off the size of the pie for lower inequality in the distribution, although there appears to be substantial heterogeneity between people and between settings (see Fehr and Schmidt, 1999; World Bank, 2005). In many cases, even Pareto superior solutions are rejected out of a concern for great equity. Consequently, an exclusive focus on achieving efficiency seems to be misplaced and does not conform to people's preferences.

3) Inequality and Happiness: The Subjective Well-Being Literature

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[5] In one experiment, subjects are asked to choose an income distribution where their grandchildren have an equal probability to be anywhere in that distribution to test for risk aversion. In the inequality aversion experiment, subjects are again asked to choose an income distribution but this time the income of their grandchild was fixed and known to be the mean income of the distribution. This distinction between risk aversion and inequality aversion is also important for assessing the theory of justice by Rawls which makes use of the thought experiment of the original position. In some of his writings Rawls motivated our agreement to a society where the well-being of the worst off individual is particularly high by risk aversion (we fear we could be the worst off after the veil of ignorance has been lifted). Inequality aversion that goes beyond risk aversion would seem to be stronger argument to support his claims about the social contract that would be reached in the original position.
[6] See also Kroll and Davidovitz (2003) for a related experiment.

Another approach to study the importance of equity for efficiency is to tackle the problem of well-being comparisons head-on using survey evidence. This is a new research field that has developed in the past 10 years and focuses mainly on analyzing answers about reported 'happiness' or reported 'life satisfaction' (e.g. Frey and Stutzer, 2002). While there are many questions and issues about the reliability and interpretability of responses to these questions, a number of rather robust results have emerged from this literature. Among the factors influencing happiness is a pronounced non-linear age effect and the importance of personal work and family circumstances (with unemployment and divorce leading to much lower reported happiness or life satisfaction) (e.g. Frey and Stutzer, 2002). More important for our purpose is the relationship between income and reported happiness or life satisfaction. Here some very robust results exist. First, there is a clear positive (but log-linear rather than linear) relationship between income levels and reported well-being within a society. Being richer at a given point in time increases well-being, but the increments of reported well-being decline with income levels (e.g. Easterlin, 1995, Clark and Oswald, 1995, Clark et al. 2005).[7] This in itself will assure that inequality reduces aggregate well-being as the excess of income (over and above mean incomes) accruing to the rich generate lower additional well-being than the well-being losses associated with the income deficit (compared to mean incomes) of the poor.

Second, income growth in a society does not appear to have a noticeable impact on reported well-being. While in some studies a small positive effect is found, in many others there is no effect whatever suggesting that rising average incomes in a country have only a very (if any) impact on reported well-being (Easterlin, 1995; Frey and Stutzer, 2002). Third, there appears to be considerable evidence that inequality reduces perceived well-being, over and above the effect it has on individual income levels (Blanchflower and Oswald, 2003, Alesina et al. 2004).[8]

The most common interpretation of these results is that relative incomes (relative to a reference group) matter more for subjective well-being than absolute incomes (e.g. Easterlin, 1995; Frey and Stutzer, 2002).[9] Clearly, lower inequality would therefore reduce the well-being 'penalty' the rich impose on the rest and thus lead to higher well-being. In fact, these findings support the notion that, in addition to positional competition, inequality aversion

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[7] See Oswald (2005) for a note of caution regarding the interpretation of this seemingly log-linear relationship.
[8] There is less clear evidence on what drives differences between countries in reported levels of well-being although here average income levels play only a rather minor role. For interesting papers discussing these issues, see Alesina et al. (2004); Clark et al. (005)
[9] See also Frank (2005) for other economic phenomena that are consistent with such a relative income view.

exists in the sense that high inequality reduces reported well-being so that this adds a second factor that supports the notion that greater equity improves well-being.

4) Empirical Implications: Distribution-Adjusted Well-Being Measures

It is possible to combine the insights from the new experimental and subjective well-being literature on the one hand with the axiomatic inequality literature started by Atkinson, Sen, and others in the 1970s to derive measures of well-being that are sensitive to the distribution of incomes to assess the impact inequality has on aggregate well-being. Efficiency-focused analysis would concentrate on increasing the economic pie, usually measured by growth rates of GDP per capita, while the findings above would suggest that distributional need to be considered when assessing aggregate well-being.

There is a small empirical literature on this topic (e.g. Sen, 1982, Kakwani 1981, Jenkins, 1997, Chenery and Srinivasan, 1974) which we picked up and extended in a series of recent papers (Klasen, 1994, Grün and Klasen, 2001; 2003, 2006). The basic approach to these distribution-adjusted measures is that these measures are based on the following formula:

$$W = \mu\,(1 - I), \qquad 0 \leq I \leq 1.$$

Distribution-adjusted well-being W is a function of mean income μ (i.e. the usual GDP/capita indicator often used for international and intertemporal comparisons) reduced by a measure of inequality I, where these inequality measures are between 0 and 1 with higher values implying higher inequality. Thus, the existing degree of inequality adjusts mean income downward to reflect the welfare loss associated with the (unequal) distribution of that mean income. Following Atkinson (1970), W can also be interpreted as the equally-distributed equivalent income, i.e. the income that would, if distributed equally, generate the same level of well-being as the actual income and the actual (unequal) income distribution.

Two types of such distribution-adjustments are considered. One is based on work by Sen (1982) and Dagum (1990) which uses the Gini coefficient as the inequality indicator, with the Dagum measure providing an additional penalty for high inequality. The other type of adjustment is based on the work by Atkinson (1970) which is based on a social welfare function where agents exhibit inequality aversion, where the amount of inequality aversion is driven by a parameter ε. A ε of 1 implies that a logarithmic social welfare function so that a percent increase in income is treated the same regardless of its recipient, while $\varepsilon = 2$, or $\varepsilon = 5$ imply higher inequality aversion.

There are important axiomatic differences between the two measures which are described in detail in Grün and Klasen (2001, 2006) and will not be dealt with here. The most important substantive difference is that the measures that use the Gini coefficient can be derived from social welfare functions where relative incomes matter for well-being while the Atkinson-based measures are based on formulations where we simply observe a declining marginal well-being impact of incomes. Based on the discussion of the experimental and subjective well-being literature, Gini-based measures seem to accord better with the findings from these literatures. Regarding the magnitude of the welfare loss of inequality, it appears that the experimental and subjective well-being literature would suggest a ε between 1 and 2 or the Sen measure as the best approximations (see Grün and Klasen, 2006).

It turns out that the incorporation of inequality in the measurement of well-being has a very significant impact of our impression of levels of well-being as well as international and intertemporal comparisons of well-being. This will be illustrated with selected findings from the papers referred to above. Table 1 compares per capita income, the indicator most commonly used for international comparison of economic performance and well-being, with the distribution-adjusted well-being measures. The distribution-adjusted measures are expressed as the ratio of the welfare measure to per capita income shown in the first column and thus to the ratio of the equally distributed equivalent income to per capita income.[10] Two findings are of particular importance. First, the well-being penalty of inequality is substantial. For example, in Sub Saharan Africa, well-being is only half as high as suggested by per capita income using the Sen measure; in Latin America, it is just above 1/3 of per capita incomes using the Atkinson ε=2 measure. Second, large regional differences in inequality translate into big differences in relative well-being between the regions. High inequality in Latin America means lower well-being compared to more equal regions in East and South Asia.

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[10] For example, the A1 value of Sub-Saharan Africa is 65.3 which means that the equally distributed equivalent income there is only 65.3% as high as the actual per capita income (of $1671). In other words, well-being in Sub Saharan Africa would be as high if per capita income was only 65.3%*1671=1091 and that income was equally distributed.

Table 1: Average Welfare Level by Region

	GDP/cap	A1	A2	A5	Sen	Dagum
Sub-Saharan Africa	1671	65.3	46.7	30.0	48.6	32.4
South Asia	2392	71.3	54.5	38.6	54.0	37.6
Middle East & North Africa	4430	72.4	55.2	37.0	55.3	38.7
Latin America & Caribbean	5608	59.4	37.4	20.8	44.6	28.8
Europe & Central Asia	7907	80.3	66.2	47.6	62.4	45.6
East Asia & Pacific	8071	70.9	53.4	35.9	53.3	36.7
High income countries	25848	81.7	67.7	48.6	63.4	46.8

Notes: based on 101 countries. A1, A2, and A5 refer to the Atkinson measures with ε=1, 2, 5, respectively. For details refer to Grün and Klasen (2006). The figures in the distribution-adjusted well-being columns refer to the welfare level using this measure as a percentage of per capita incomes (or, equivalently, the equally distributed equivalent income as a percentage of per capita income).

This is brought out in Figure 1 where well-being measures in the different regions in the year 2000 are being compared to industrialized countries.[11] When using per capita incomes, Latin America has reached over 25% of the income levels of industrialized countries. When accounting for inequality, it only reaches about 15% of the well-being levels of industrialized countries, again due to much higher inequality than in rich countries. Conversely, when inequality is taken due account of, East Asia and the Middle East are on similar levels with Latin America, due to much lower inequality in the former regions.

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[11] For reasons explained in Grün and Klasen (2006), the sample in Figure 1 is considerably smaller than in Table 1 and is therefore not fully comparable to it.

Figure 1: Welfare measures compared to industrialized countries
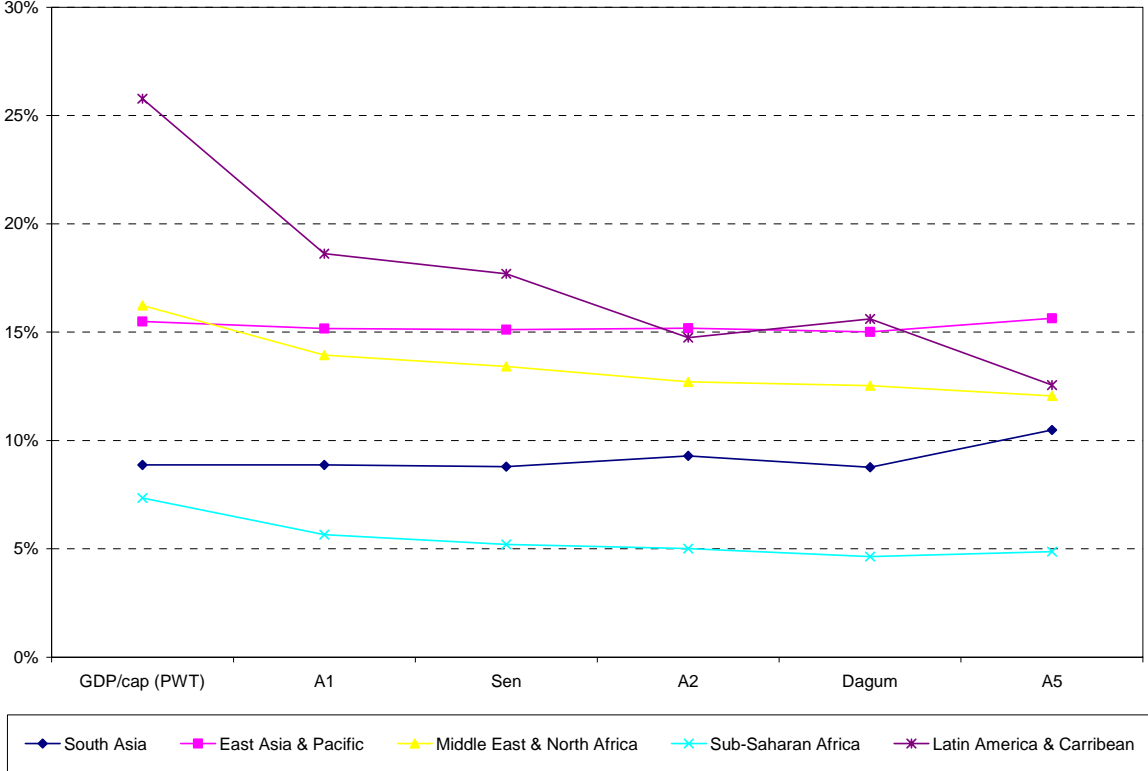
The consideration of equity as a major factor affecting well-being also affects trends in well-being over time. Two particularly dramatic examples are included here. Figure 2 shows well-being losses between 1988 and 1995 in transition countries of Eastern Europe and the former Soviet Union. This was a period when output declined sharply in all of them and inequality simultaneously increased. While the output decline (see Y weights in Figure 2) already shows dramatic problems for well-being, the inequality increase magnifies this welfare loss significantly. Using inequality adjusted measures, the well-being loss in some of the successor states of the Soviet Union was a high as 50-80% in a mere 7 years where the inequality increase contributes about half to the overall well-being loss.

Another telling example is to use these distribution-sensitive measures to assess changes in well-being in the US from 1960 to 2000 which is shown in Table 3. Already when using per capita incomes, the 1950s and the 1960s led to much higher improvements in well-being than the subsequent three decades. The comparison becomes much more accentuated when the distribution-adjusted measures of well-being are used. In particular, a comparison between the 1960s and the 1980s is instructive. Using per capita incomes, the annual growth in well-being was about 4 times larger in the 1960s than in the 1990s (3.2% versus 0.8%). Using the

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Sen measure the difference is much larger, with improvements in well-being in the 1960s being 12 times larger than in the 1980s. Using the Atkinson ε=2 measure, well-being actually shrank over the course of the 1980s. The reason for this diverging performance is, of course, that the higher income growth of the 1960s was associated with falling inequality, while the much lower growth during the Reagan/Bush era was accompanied with sharply rising inequality, which effectively wiped out any gains of the income growth.

These empirical illustrations show that reasonable ways to incorporate distributional concerns in the measurement of well-being that are consistent with our findings from the experimental and subjective well-being literature lead to very different impressions of levels and changes in well-being across space and time. A critical conclusion here is, as above, that addressing equity issues can be critical for promoting efficiency and aggregate well-being.

Figure 2: Well-Being Losses in Transition Countries
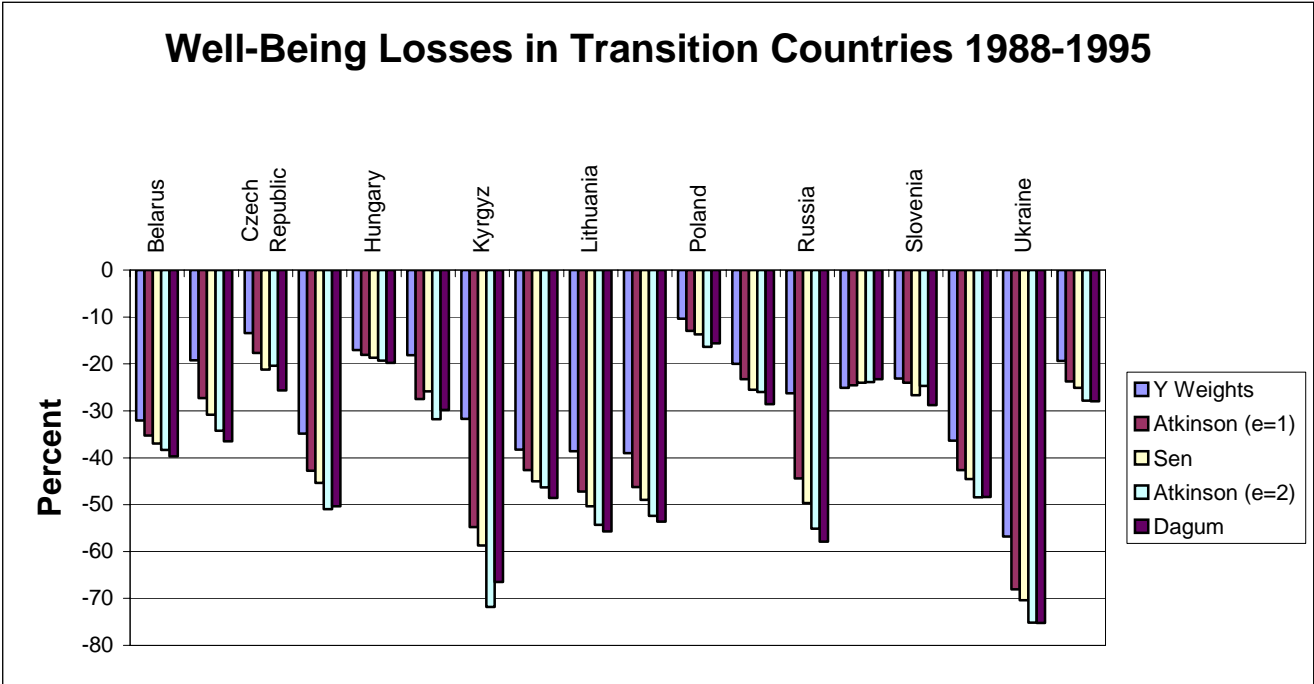
Source: Grün and Klasen (2001)

Figure 3: Average annual growth of well-being in the US
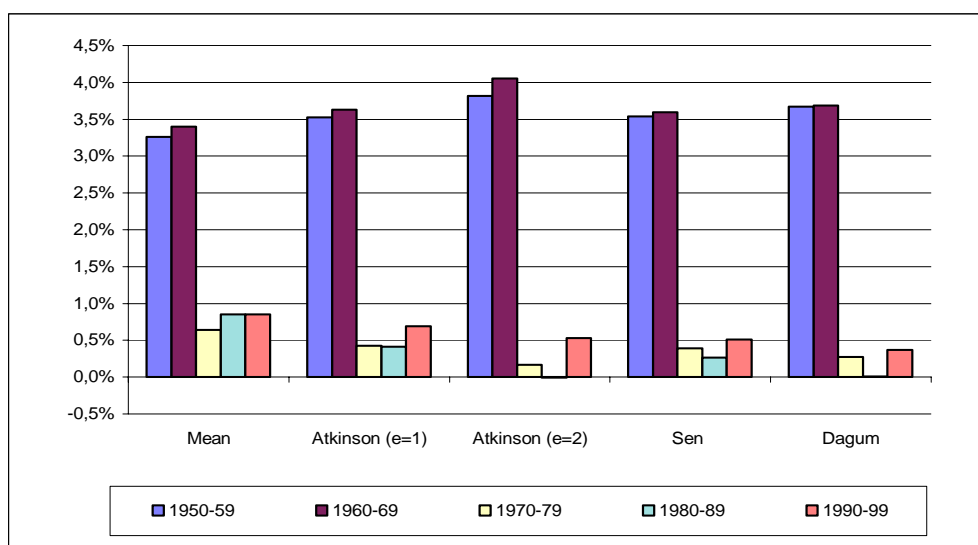
Notes: Calculations are based on U.S. census data (constant 1982 dollars). Mean refers to the mean money income of families.
Source: Grün and Klasen (2003).

5. Inequality-Growth Trade-Offs: Theory and Evidence

While the separation between efficiency and equity issues in neo-classical economics is usually justified on conceptual grounds, there is the additional concern that a focus on equity and redistribution would come at the cost of promoting greater efficiency, i.e. there is an efficiency-equity trade-off, or a closely related growth-inequality trade-off. If such a trade-off existed, clearly this would also partially undermine some of the findings from the previous section. If a focus on reducing income inequality invariably reduced growth, then the 'cost' of improving equity might be larger than the perceived benefits.

The question of this trade-off is an old one in economics. [12] Models in the Keynesian as well as the neo-classical tradition can yield such trade-offs. Most arguments surrounding such a trade-off center on the role of inequality in the promotion of savings and the provision of incentives for effort. The savings arguments turns on the claim that rich people have a higher propensity to save than poor people and thus redistribution from the rich to the poor will depress aggregate savings and therefore economic growth. The incentive argument is more focused on the process of redistribution and argues that redistribution via high marginal taxes blunts incentives for effort which depresses overall economic growth.

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[12] See, for example, Lipton and Ravallion (1995), Kanbur (2001) and Deininger and Squire (1998) for a survey of these issues.

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While both arguments have some plausibility, their empirical relevance is open to question. In particular, there is evidence that the middle classes are actually those with the highest propensity to save and they typically fare poorly in a highly unequal society (Ray, 1998). Second, while the incentive argument is bound to have some relevance at the extreme (payment largely regardless of effort is sure to depress incentives as the experience of socialist countries has amply shown), its relevance is less clear when redistributive policies of the type undertaken in rich countries are considered (see, for example, Atkinson, 1998).

In the last ten years, a range of models have been proposed that suggest precisely the opposite relationship, i.e. that inequality reduces economic growth. Conversely, reducing income inequality might actually promote growth and efficiency. These models concentrate mainly on three issues. The first one argues that high inequality increases capital market imperfections for poor people in the sense that their access to credit and insurance is curtailed. This prevents them for engaging in productive investments and forces them to concentrate on low risk but low return economic activities, both of which depresses overall growth and efficiency (see Galor and Zaira, 1993; Deininger and Squire, 1998; World Bank, 2005). The second argument is focused on political and social stability and argues that high inequality reduces both and thus depresses investment and growth (Rodrik, 1999). The third argument turns on the process of redistribution and argues that high inequality will lead to calls for high marginal taxation of the median voter (the voter that essentially decides on political outcomes) which will then blunt incentives (Alesina and Rodrik, 1994).

Given the opposite conclusions from these different sets of models, the relationship between inequality and growth becomes largely an empirical question. Since reliable and (roughly) comparable distributional data have only recently become available for a large number of countries, investigating this empirical relationship has been the focus of intense debate and research in the past decade. While there are results going in both directions, the preponderance of evidence suggests that, if anything, initial inequality seems to be associated with reduced economic growth (e.g. Deininger and Squire, 1998; Alesina and Rodrik, 1994, Lundberg and Squire, 2003). It also appears that the channel operating via credit market imperfections as well as political and social stability appear to be particularly relevant in explaining this effect (Deininger and Squire, 1998; World Bank, 2000). While these findings suggest that initial income (and particularly initial asset) inequality is harmful for subsequent economic growth, the literature is less conclusive on the impact of redistribution on

subsequent growth (e.g. Forbes, 2000; Banerjee and Duflo, 2003). Here the results are less clear with different studies suggesting opposite conclusions. This uncertainty is largely related to data and estimation issues which are more difficult to solve. Country-specific research has shown that redistribution and distribution-sensitive policies can provide an important boost to kick-start development as was the case in many East Asian countries (Fai and Ranis, 1988; World Bank, 1993; Timmer, 2006; Grimm, Klasen, and McKay, 2006; Ravallion, 2005); they can also lead to lower growth, depending on the instruments chosen for redistribution (e.g. Besley and Cord, 2006; Grimm, Klasen, and McKay, 2006). Even if this last point remains contentious, there is little evidence of a clear growth-equity trade-off. In fact, it appears that the opportunities for promoting growth through higher equity are considerable, particularly in high inequality regions such as Latin America (e.g. World Bank, 2006).

A related theoretical and empirical literature investigated whether gender inequality affects economic growth. Here a few models are suggesting that gender inequality in education or earnings can lower growth and in fact lead to a self-reinforcing poverty trap (Lagerlöf 2003, Galor and Weil 2000). The empirical literature has found considerable support for such a view. There are now a number of papers that have particularly documented the negative impact of gender inequality in education on growth (e.g. Knowles et al. 2002; Yamarik and Ghosh, 2003; Klasen, 2002; Klasen and Lamanna, 2003). The effects are sizable and appear to account for a significant portion of the poorer growth performance in past decades in South Asia and Sub-Saharan Africa (Abu-Ghaida and Klasen, 2004). Also here, greater equity in this dimension appears to be leading to greater efficiency.

6. Conclusions

There is a long and proud tradition within economics to think of equity issues from a normative perspective. That tradition has contributed a great deal to the discipline as well as to policy discussions. The continuation of this tradition is clearly advancing the discipline itself as well as its role in society.

The argument of this paper was that, in light of the four strands of literature I discussed, it is not necessary and useful to confine the topic of equity to normative economics. In fact, I have tried to show that one cannot undertake positive economic analysis focusing on

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efficiency issues without considering equity issues as a central ingredient for economic analysis. The experimental and subjective well-being literature has clearly demonstrated that equity concerns affect behavior and well-being, and the empirical implications for assessments of well-being (and associated policy choices) are significant. Moreover, the long-suspected trade-off between equity and efficiency does not appear to hold in practice and in fact greater equity might be a pre-condition for achieving greater efficiency in many contexts. Thus the reluctance to explicitly consider equity issues in theoretical and applied within economics is distorting analysis and policy advice and leads to erroneous and sub-optimal policy recommendations.

Stating that equity matters for efficiency analyses can only be the starting point for a much wider research agenda of how to incorporate equity issues within economic analysis. Among the issues to consider are the types of inequality that appear to matter particularly for well-being and efficiency (e.g. incomes, assets, education, opportunities, freedoms?, see Sen 1992), how to adequately model that attitudes towards inequality differ between people and settings (see Fehr and Schmidt, 1999), how to model the political economy of inequality, and whether the results that are focused on equity within a country also translate to equity between countries or at a global level (e.g. Klasen, 2006; World Bank, 2005). Thus there is much more work to be done and the point of this short paper was to demonstrate that it is very worthwhile to embark on this exciting and important research agenda.

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