

Kanbur, Ravi

**Working Paper**

## Education, empowerment and gender inequalities

CREDIT Research Paper, No. 02/14

**Provided in Cooperation with:**

The University of Nottingham, Centre for Research in Economic Development and International Trade (CREDIT)

*Suggested Citation:* Kanbur, Ravi (2002) : Education, empowerment and gender inequalities, CREDIT Research Paper, No. 02/14, The University of Nottingham, Centre for Research in Economic Development and International Trade (CREDIT), Nottingham

This Version is available at:

<https://hdl.handle.net/10419/81751>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



# **Education, Empowerment and Gender Inequalities**

by

**Ravi Kanbur**

The Centre for Research in Economic Development and International Trade is based in the School of Economics at the University of Nottingham. It aims to promote research in all aspects of economic development and international trade on both a long term and a short term basis. To this end, CREDIT organises seminar series on Development Economics, acts as a point for collaborative research with other UK and overseas institutions and publishes research papers on topics central to its interests. A list of CREDIT Research Papers is given on the final page of this publication.

Authors who wish to submit a paper for publication should send their manuscript to the Editor of the CREDIT Research Papers, Professor M F Bleaney, at:

Centre for Research in Economic Development and International Trade,  
School of Economics,  
University of Nottingham,  
University Park,  
Nottingham, NG7 2RD,  
UNITED KINGDOM

Telephone (0115) 951 5620  
Fax: (0115) 951 4159

CREDIT Research Papers are distributed free of charge to members of the Centre. Enquiries concerning copies of individual Research Papers or CREDIT membership should be addressed to the CREDIT Secretary at the above address. Papers may also be downloaded from the School of Economics web site at:

[www.nottingham.ac.uk/economics/research/credit](http://www.nottingham.ac.uk/economics/research/credit)



# **Education, Empowerment and Gender Inequalities**

by

**Ravi Kanbur**

**The Authors**

Ravi Kanbur is T.H. Lee Professor of World Affairs and Professor of Economics, Cornell University.

**Acknowledgements**

Paper originally prepared for presentation to the Annual World Bank Conference on Development Economics, Washington, D.C., April 29-30, 2002. I am grateful to my two discussants, Christina Paxson and Jungyoll Yun, to two anonymous referees, and to participants at the conference for their comments.

---

August 2002

# **Education, Empowerment and Gender Inequalities**

by  
Ravi Kanbur

## **Abstract**

This paper considers a seeming disconnect between the consensus in policy circles that reducing gender inequalities is to be prioritized in strategies for reducing inequality and poverty, and a view in mainstream economics (and in some policy circles) that gender inequalities are overemphasized. This latter view is not stated openly, it being politically incorrect to do so, but is nevertheless present. In specific terms, there is a sense that gender inequalities are not large relative to other types of inequalities, that the evidence on the consequences of gender inequality for economic growth is weak, and that in any event inequality of power is not something that should receive policy priority over conventional economic interventions. This paper takes these positions seriously, and argues that on some readings the narrowly economic evidence does indeed support them, but that to some extent this is an issue with the economic evidence and with its interpretation. A reexamination of the evidence and the arguments suggests a number of directions for research and analysis in exploring the economics of gender inequalities.

## **Outline**

1. Introduction
1. Are Gender Inequalities “Large”?
1. Do Gender Inequalities Inhibit Efficiency and Growth?
1. Is Inequality of Power the Fundamental Inequality?
1. Conclusion



## I INTRODUCTION

“Gender inequality hurts all members of society, not just girls and women.”

--*World Bank*, <http://www.worldbank.org/developmentnews/stories/html/120701a.htm>

“Are we focusing on women because we believe that gender is a good category for addressing the inequalities in the world? That is certainly false by an order of magnitude, maybe two.”

--*Anonymous reviewer of the initial proposal for this paper.*

As with trade liberalization, gender equity is part of the World Bank’s mantra on equitable development and poverty reduction. Unlike trade liberalization, gender equity is the part of the mantra that I personally welcome and repeat. But apparently, not everyone is convinced. The stark position taken above by an anonymous reviewer of an earlier proposal for this paper could be easily caricatured and dismissed, but that would be a mistake.<sup>1</sup> Although such positions are rarely stated in public these days, because it is politically incorrect to do so, they are more widespread in mainstream economic thinking than is commonly realized. And, what is more, they are intimately related to the economic evidence on gender inequality, and to the frameworks for interpreting them.

What might underlie the disquiet about the emphasis being given to gender inequalities? I identify three possible strands in this paper. First, there is a sense that gender inequalities, in education and in other variables, are not as large as they are made out to be, in comparison with inequalities along other dimensions such as country of residence. Second, there is the argument that the macroeconomic evidence for the beneficial effects on growth of reducing gender inequalities, again in education for example, is weak. Third, there is a view that that to the extent that gender inequalities need to be addressed, the focus should be on economic and social inequalities, such as inequality in consumption or in education, and not on inequalities in power.

---

<sup>1</sup> My original proposal, entitled “Education and the Empowerment of Women,” was for a paper that attempted to integrate intra-household bargaining models (for example of the type in Ghosh and Kanbur, 2002) and political economy models of policy determination, in the context of educational choices and expenditures. But when I read the general arguments being advanced in the review I set about looking at the evidence on gender inequalities in detail, and the nature of the paper changed (the modeling exercise will have to wait for another occasion).



Why do such views persist at the core of mainstream economic thinking? I believe the answer is that the narrowly economic evidence can be, and is, read as giving support to these positions. At least, it is seen as not supporting prioritization of reducing gender inequalities as strongly as the policy conventional wisdom now seems to advocate.<sup>2</sup> This paper argues that there is some truth to this characterization of the currently available economic evidence. However, this is a reflection on the nature of that evidence. It is important for economists and policy analysts to understand these concerns and to address them where possible—in narrowly economic terms as well as in broader disciplinary contexts.

The outline of the paper is as follows. Section 2 takes up the exact sense in which gender inequalities are “large”, by considering different ways of defining “large” and through different comparisons of inequalities in various outcomes. Throughout the paper, there will be a focus on gender inequalities in education, because of the prominence it receives in the literature, but other aspects such as consumption will also be considered. Section 3 looks at the evidence on gender inequality and economic growth, and finds that in conventional macro economic studies, causality is not as strongly established as one would like. Section 4 argues that the dominant household model in mainstream economics, the unitary household with unique and given preferences, tends by its nature to emphasize economic inequalities over political ones. Section 5 concludes the paper with a discussion of the implications of the disconnect between the policy consensus and the narrowly economic evidence and argument, and highlights the interesting research questions that arise as a result.

## **II ARE GENDER INEQUALITIES “LARGE”?**

There is considerable evidence that, by and large (with exceptions, of course), the average achievements of women in consumption, health and education are lower than those of men<sup>3</sup>. But, these differences are invariably smaller than, for example, differences across developed and developing countries, between rural and urban residents within a country, or between the top and bottom quintiles within a country.

---

<sup>2</sup> The most recent statement of the policy conventional wisdom is World Bank (2001).

<sup>3</sup> See, for example, the documentation in Mammen and Paxson (2000).

How are we then to address the question of whether or not gender inequalities are “large”?

There are both conceptual and empirical issues. Conceptually, a common enough approach is the following. Consider any variable measuring individual attainment, the inequality of which is of interest. This could be educational attainment, or consumption, for example. The inequality in the distribution of this variable across individuals can be measured using any one of a number of standard inequality indices. Suppose now that individuals also have other characteristics such as gender, location, or age. Each characteristic divides individuals into mutually exclusive and exhaustive groups. The overall distribution of the variable of interest can now be seen as composed of sub-distributions for each group. Inequality between the groups can then be related to the differences in the means between the groups, with inequality within groups reflected in the spread of the variable around each group’s average.

If gender is the characteristic in question, then gender inequality can be measured simply in terms of the differences in the mean of the variable for men and for women (this is also an estimate of the difference in the expected value of the variable conditional upon being a member of one group or another). Another method is to “decompose” overall inequality into its “between group and “within group” components following standard techniques, and to use the between group component as the measure of gender inequality<sup>4</sup>. Yet another method is to regress the variable against a gender dummy and to use the percentage of variation explained as a measure of the degree of gender inequality. Any of these measures can then be compared to the corresponding measure for another characteristic, for example location, to draw a conclusion about whether gender inequality is “large” relative to other groupings in society.

All three of the above measures are used in the literature to argue the case for the importance, or otherwise, of gender inequality.<sup>5</sup> But it is important to make sure that like is being compared with like. The most common way in which this requirement is violated is when comparing the measures for characteristics that do not have the same

---

<sup>4</sup> See Shorrocks (1984).

<sup>5</sup> For example, the work of Filmer (1999) is sometimes used to argue that when wealth, gender and residence gaps are used simultaneously to explain variations in social outcomes, not much is left for gender to explain once the other two variables are in play.

number of categories. For example, the problem arises if gender, with two categories, is compared with location (e.g. counties in international comparisons, or provinces for comparisons within a country), which has more categories. For a start, it is not clear how mean differences between two groups are to be compared to mean difference between more than two groups. The second measure above does allow comparisons in this case, but as the number of categories increase the within group component could decrease. There is of course no guarantee of this, since it depends on the exact nature of the groupings. But it certainly happens in the limit--when the number of categories is the same as the number of individuals, only the between group component remains and the within group component is zero.

Consider therefore whether the gender dimension of educational inequality is “large” when comparing gender with wealth (or income), which is often done, with the conclusion that wealth “accounts for” more inequality than does gender. But wealth, in these analyses, is an individual level variable—in other words, there are as many categories for this characteristic as there are individuals. It is perhaps not surprising, then, that gender-based inequality in education is not “large” compared to wealth-based inequality in education. A fairer comparison would be to treat wealth also as two categories—high and low. But even here, there is no natural dividing between high and low wealth (in the way that there is a natural division for gender), although above and below the population mean might be one option. Clearly, wealth inequality in education would loom less large if this were done, but the actual numerical values will vary across empirical contexts.

The above discussion for inequality has a natural extension to poverty. Given a critical cut off (the “poverty line”) for the variable in question (educational attainment or consumption), a number of poverty indices can be used to describe the lower end of the distribution. Of particular interest are the FGT family of indices, which can be decomposed across characteristics that divide individuals into mutually exclusive and exhaustive groups as before.<sup>6</sup> In this case, each FGT index can be written as a weighted sum of group FGT’s, each weight being the population share of the group in question. The analog to the question of whether gender inequality is high is now whether differences across gender groups contribute “ a lot” to overall poverty. The

corresponding thought experiment might be to equalize means across gender groups and ask, how much does this change poverty, compared to the same exercise for another characteristic with the same number of categories.

Such an exercise has not been done in the literature, to my knowledge. However, the following thought experiment has been analyzed.<sup>7</sup> Consider a small redistribution from one category to another, taking small amounts from each individual in one group and transferring the proceeds to individuals in the other group. Such marginal redistributions may in any case be more policy relevant than complete elimination of inequality between groups in one fell swoop. What is the impact on poverty? The answer clearly depends on the details of the redistribution. For the case where subtractions and additions are additive, a particularly clear result is available for the FGT family. For FGT(a), where ‘a’ is the famous “poverty aversion” parameter, such a redistribution reduces poverty in proportion to the difference between FGT(a-1) for the two groups. Thus, from this perspective, absolute differences in FGT(a-1) for men and women become a measure of how “large” gender inequality is. This difference is to be compared to the corresponding difference for the two groups defined by another characteristic such as location (e.g. urban/rural), age (young/old) or employment status (employed/unemployed).<sup>8</sup>

The thought experiments above have a key feature—they keep the overall mean of the variable in question constant. This accords well with the “constant budget comparisons” principle of modern public finance analysis when the variable in question is consumption or income. But thinking of the variable as educational attainment raises questions about the constant budget requirement, unless it is assumed that the unit cost of educational attainment is constant. More generally, there is the question of the actual administrative and economic costs of the redistribution attempted in the thought experiment. These costs are unlikely to be the same across different categories such as gender, age or location. Thus using the “thought experiment impact” of redistribution across categories, as a measure of the quantitative magnitude of the inequality across

---

<sup>6</sup> See Foster, Greer and Thorbecke (1984).

<sup>7</sup> Kanbur (1987).

<sup>8</sup> The analysis can be extended from giving guidance on marginal redistributions to a characterization of the fully optimal redistribution, using this or that category across which to redistribute. See Ravallion and Chao (1989) and Ravallion and Sen (1994) for such “optimal targeting” calculations for geographical and for land holding categories, respectively.

these categories, is not complete without an assessment of the costs of these redistributions. Such comparative assessments are not found in the literature. And yet, without such analysis, any answer to the question of whether gender inequalities are “large” will not have adequate conceptual foundation.

So much for the conceptualization of whether gender inequality is “large”. In empirical implementation, a fundamental problem presents itself. This is that, for the standard consumption based measures of poverty, we cannot identify individual values through our standard household survey data sets. While education can be measured directly as an individual attainment, consumption data is collected at the household level, and the way of generating individual level consumption is to assume that allocation is equal distribution across the members of the household (or, in a few studies, according to adult equivalent scales). Thus the most commonly used variable in distributional analysis simply cannot address gender differences per se. Rather, differences in gender are forced to be differences across households in which the genders live. The same is true of age. The household level characteristics include, of course, location and the average consumption or wealth of the households. Is it any wonder then that gender does not explain individual outcomes in consumption over and above wealth of the household or average consumption of the household, or averages for region or country of the household?

There is a well-known literature on comparing “female headed households” with the average household, to try and get at gender differences. Interesting as these comparisons are in their own terms (for example in highlighting the plight of widows in India), it should be clear that the comparison cannot conceptually be used to pronounce on whether gender difference are “small” or “large”.<sup>9</sup> There is also a small literature on genuinely trying to identify individual consumption by focusing on food intake. One study, which used calorie intake (adjusted for needs) and calculated the understatement of true inequality and poverty compared to standard procedures that ignore intra-

---

<sup>9</sup> In any event, the literature is inconclusive. For example, Buvinic and Gupta (1997) find a preponderance of cases where female headed households poorer than average, but Quisumbing, Haddad, and Pena (2000) find a significant difference in very few of the cases they consider.

household inequality, came up with a figure of 30-40 %. But this was for all aspects of intra-household inequality, not just gender differences.<sup>10</sup>

The prospects for getting true measures of individual level consumption are not bright. The problems are conceptual as well as empirical. The individual food consumption data methods have their own problems. Once we get beyond food, it is not clear how precisely to allocate household public goods consumption across individuals, especially if preferences differ across individuals. Thus, we are stuck with a situation that our standard “headline” measures of consumption based poverty assume no gender difference within the household, and there is no way of assessing how serious an assumption this is within the same framework. Not surprisingly, other variables, information on which can indeed be collected at the individual level, will always remain important in the study of gender differences. These variables include education, health, income streams and time use. And assessing whether gender inequality is “large” in terms of these variables takes us back to the issues raised at the start of this section, and underscores the importance of addressing the conceptual issues raised there in specific empirical contexts.

### **III DO GENDER INEQUALITIES INHIBIT EFFICIENCY AND GROWTH?**

Whether gender inequalities are “large” is important in understanding whether gender based redistribution could have a major impact on overall inequality and poverty, in particular compared to inequalities in other dimensions. But this may also be important for another reason—if it can be showed that gender inequality impedes overall efficiency and growth, either directly or because of its contribution to overall inequality. In particular, the gender dimension of education inequality is often emphasized as holding back economic growth.

The most striking feature of the literature encompassing inequality, education, gender and growth is the strong disconnect between the theoretical and micro-empirical studies on the one hand, and the macro-empirical studies on the other. The former invariably produce arguments or evidence for why education inequality and inequality in general, and gender inequality in particular, can impede efficiency and growth. The latter set of

---

<sup>10</sup> See Haddad and Kanbur (1990). But other nutrition based studies are inconclusive on whether nutrition within the household is unequally distributed relative to need—for example, Appleton and Collier (1995).

studies tends to be far more agnostic, if not directly contradicting the micro studies. Focusing on one set versus the other could give a totally different picture on gender inequality, efficiency and growth.

Start with inequality in general. A whole host of theoretical studies in the last fifteen years suggest that, contrary to the earlier conventional wisdom that inequality helped growth because the rich saved a higher proportion of their income than the poor, high inequality in a general sense can be detrimental to efficiency and growth. This literature has been surveyed in Kanbur (2000) and in Kanbur and Lustig (2000), and there is no need to go into detail here.<sup>11</sup> Suffice it to say that the basic structure of the argument takes off from a second best world where, for example, incentive compatibility constraints bite. Redistribution can then release these constraints, thereby permitting welfare gains, even perhaps Pareto improvements<sup>12</sup>. Another line of argument follows from political economy effects on policy, it being shown that a more equal distribution of endowments leads to a more pro-growth policy being chosen by the political institutions.

In stark contrast to the tone of the theoretical literature, the empirical literature is much more circumspect. The “reverse Kuznets effect” literature, which tries to explain growth in a cross-section of countries as a function of the standard variables plus inequality at the start of the growth period, started off with a strong push in the direction of a negative relationship between inequality and growth.<sup>13</sup> However, recent papers have been less clear cut, some even suggesting that the relationship is positive, which is back to the old conventional wisdom.<sup>14</sup> No doubt the debate will continue as other papers find that results in either direction are “fragile”.<sup>15</sup> The fact that the empirical literature is inconclusive is surely related to the well-known problems of data and method, well known from the old Kuznets curve literature, which itself found no relationship between

---

11 See also Aghion, Caroli and Garcia-Penalosa (1999), or Benhabib and Rustichini (1996).

12 Such an argument is developed by Hoff and Lyon (1995), for example.

13 Alesina and Rodrik (1994), Persson and Tabellini (1994), and Alesina and Perotti (1996) are a selection of papers in this vein.

14 Forbes (2000) finds a positive and significant association between inequality and growth, while Banerjee and Duflo (2000) find that the growth rate is an inverted-U shape function of changes in inequality. Arguello (2002) finds that “there is virtually no panel estimation evidence here of a negative correlation between inequality and growth.” See also Li and Zou (1998).

15 See for example the recent paper by Morrissey, Mbabazi and Milner (2002).

inequality and per capita GNP in cross section econometrics.<sup>16</sup> While the inequality data set has improved over the last two decades, major problems of comparability and quality still remain.<sup>17</sup> Methodologically, the central problem in establishing causality is in identifying exogenous movements of the inequality variable that are not capturing other differences to a large extent.<sup>18</sup>

Turning now to gender inequality, there is considerable micro level evidence that gender asymmetries of various sorts lead to inefficiency. Typically, these studies argue that women are constrained from efficient use of certain inputs like credit, or inefficiently low supply of effort because of labor market discrimination, which leads to inefficiently excessive exploitation of other inputs, like common property resources. Equalization, in the sense of lifting these constraints on women can thus be shown to increase efficiency.<sup>19</sup> More general arguments flow from the strongly established effect of female education on fertility and a (more controversial) causal relationship of low fertility to growth.<sup>20</sup> But again, finding effects at the macro level, for example finding a strong relationship between gender inequality in education and growth, proves to be more difficult.

Before turning to the effect of gender inequality on growth, it should be noted that there is a strong disconnect between micro and macro results on education and growth in general. At the micro level, human capital theory underpins a strong relationship between earnings and education, a relationship that is one of the more strongly established in micro applied economics<sup>21</sup>. Of course, this relationship applies equally to men and women. Some years ago, this micro relationship was also argued to be present in the macro data, showing that as average education levels increased, average income levels and income growth rates also rose. But research in the last decade has left the position much less certain, particularly for developing countries. There was a tremendous expansion of education as officially measured in the decades after 1960.

---

16 For an early critique of studies that claimed to find a Kuznets curve, see Anand and Kanbur (1993). For more recent critiques, using expanded data sets, see, for example, Li, Squire and Zou (1998).

17 A critique focusing simply on the OECD data in the newly available data sets is provided by Atkinson and Brandolini (2001). The problems apply with greater force to developing country data sets.

18 In a recent paper, for example, Easterly (2001a) claims to have found a novel instrument—settler mortality in newly settled colonies.

19 See the papers by Tzannatos (1999) and Ilahi (2000).

20 Jejeebhoy (1995), Klasen (1999).



However, the effects on growth have proved difficult to detect (after all, as education levels increased from the 1960s to the 1990s, growth rates moved in the opposite direction for many countries, especially in Africa).<sup>22</sup>

Perhaps one reason for the lack of a relationship between levels of education and growth is that gender inequality in education was increasing during this period. In fact, this inequality, as measured by the differential enrollment rates, also generally declined, although its levels remain high. Of course, this could still be consistent with a positive contribution of education equity to growth, and we need to look at the analysis more carefully. In doing so, we should be careful to distinguish between the effect of simply increasing female education holding male education constant, and a genuine inequality effect over and above the level effect. In any event, as documented in World Bank (2001), despite some studies that argue for a positive effect of gender education equality on growth, the picture emerging from cross-country regression analysis is decidedly mixed.<sup>23</sup> But this should not be surprising, given the inconclusive nature of the broader literature on education and growth and on inequality and growth. Indeed, it would be surprising if it were otherwise.

#### **IV IS INEQUALITY OF POWER THE FUNDAMENTAL INEQUALITY?**

Whatever one's view of whether gender differences are "large", and on their consequences for inequality, poverty and growth, why are female achievements (in education, but also along other dimensions) lower than those of males?

One way to approach this is to consider the interaction between household level processes, and processes and parameters that are outside the household, in the community, the country and the world. Consider two models of the household, "unitary" and "bargaining". In the unitary model, the household acts as if it has a single and given set of preferences and chooses its actions to satisfy these preferences given the constraint

21 For a recent review of the empirical literature on education and income, see Case (2001a). The micro evidence on returns to education for girls is highlighted in Schultz (2001).

22 Easterly (2001) presents a formidable critique of the methods and conclusion of the education and growth literature based on the work of Pritchett (1997), Klenow and Rodriguez-Clare (1997) and Judson (1996), Benhabib and Spiegel (1994), among others. However, for a recent counter argument see Cohen and Soto (2001).

23 Barro and Lee (1994) argued that gender inequality actually improved growth. Dollar and Gatti (1999) and Klasen (1999) are the current studies that argue for a significant effect of gender inequality in education on

set.<sup>24</sup> In this setting, as the outside parameters become more unfavorable to women—for example, as gender discrimination in the labor market increases, or as the schooling that girls receive worsens, the household will rationally deploy its labor accordingly. It will send its women out to work less and send its girls out to schools less as well. But any given level of total household resources will still be divided in the same way as before, according to the household preference function.

In the bargaining model, members of the household (for simplicity, the man and the woman) have outside options, but are in a household for various reasons, among which are various types of joint production and scale economies.<sup>25</sup> The issue of distribution of these benefits, as viewed by individual preferences, is an open one in the bargaining model. It depends on, among other things, the outside options facing individuals. But these outside options are themselves determined by parameters and processes outside the household.

With this framework, there is an intricate and interacting relationship between inequality of “power” and inequality of outcomes for men and women. But it is different for the two views of how a household operates. Thus with unitary households, external moves to improve education for women, by removing discriminatory practices, will improve the position of the household as a whole, assuming its preferences were such as to want to send girls to school. But the same applies to credit constraints, land inequality, and a plethora of other external factors that constrain households independently of a gender dimension. However, with a bargaining view of the household, outside parameters that affect outside options of men and women have a deep impact on the distribution of the gains from household activity, including the distribution of consumption, expenditures on education, health care, time allocation and so on.

There are two senses in which power is being exercised here. One is in the determination of the outside parameters, to the extent that they are affected by political processes and social norms. This is the same for the unitary and the bargaining models. The other is in

---

economic growth. The exercises in Knowles, Lorgelly and Owen (2000) show how sensitive the conclusions can be to different specifications.

<sup>24</sup> A standard application of this framework to agricultural household is seen in Singh, Squire and Strauss (1986).

<sup>25</sup> One of the first attempts to formalize this set up is found in Manser and Brown (1980). For more recent modeling in this vein, see Kanbur and Haddad (1994) and Ghosh and Kanbur (2002).

the determination of outcomes within the household. This is radically different for the two models. In particular, notice that in the unitary model women and men will be equally interested in changing outside parameters in so far as the change benefits their household's total resources (which will then be divided according to the household preferences). Put another way, women will not necessarily be more interested in reforming discriminatory land ownership regulations than, say, improving overall credit to the region in which they live. Of course changing these overall policies and structures will pit different types of households, and perhaps rich versus poor households, against each other. But there will not be a gender dimension to the politics, certainly not within the household by definition, but also not outside the household.

However, the bargaining model leads to a gender dimension of politics inside and outside the household. Outside options determine bargaining power within households, and bargaining power determines outcomes for men and women in terms of individual outcomes within the household. These are the two precise senses in which inequality of power is the fundamental inequality explaining outcomes—first, intrahousehold power given the outside parameters, second the power to influence the political process that affects the outside parameters. Notice that, on the second, with a bargaining model there is a clear gender dimension to politics outside the household as well.

Now, there is a sense in which, even in the bargaining model, it can be argued that direct political power is not as fundamental. This is found in an oft heard argument, that it is better to improve women's education and their labor market position rather than, for example, to improve their capacity to organize themselves into a political force to change these parameters for themselves. The reasoning is that improving education opportunities and other economic opportunities for women will strengthen their bargaining power within the household, which will further improve their outcomes and resources. These improved resources will then provide the base for women to organize themselves. Without economic resources to start with, organization to change outside parameters will be weak. In this sense therefore, political empowerment must take second place to economic advancement for women, which will empower them within the household and then, eventually, outside the household.

This is a powerful argument, but it can be countered to some extent, on the grounds that we cannot assume that increased education for women, and reduced discrimination in factor markets, will happen just like that. Such changes are themselves outcomes of political processes, and unless the preferences of women are given weight in these processes, either directly or through “enlightened” intermediaries, they will not happen, or not happen as fast and not in quite the best way for women. While enlightened intermediaries are always welcome, and there may be long periods when they are all that are on the scene, the objective must always be to increase the voice and power of women in political and social processes outside the household. The difficulty is partly that we do not have any idea of the relative costs, per unit of gain in outcomes for women, of the economic versus empowerment alternatives—supporting access to credit for women versus supporting women’s organizations, for example. In the absence of such specific evidence, there is polarization on which tack to take, with the standard compromise reached in policy syntheses, that we should do both.<sup>26</sup>

But the basic argument on inequality of power between the genders being fundamental, cannot get off the ground if the unitary model rules the roost, which it still does among mainstream economists. This is despite many studies that purport to show, for example, that the income pooling hypothesis, a key implication of the unitary model, is not supported by the data. According to this hypothesis, what should matter to household expenditure patterns are the total resources of the household, not who brings in those resources. Again and again, it is shown that who brings in the income does matter to the allocation of household resources.<sup>27</sup> But mainstream economists, as evidenced by the bulk of ongoing research on demand patterns, on general policy analysis, and by what is taught in basic courses, still continue to be unitarist by instinct, raising methodological issues with these studies. In particular, the standard argument is that the same factors might affect the composition of income as, for example, relative expenditure on women’s clothing (because a woman who goes out to work will need to spend more on

---

<sup>26</sup> As seen, for example, in World Bank (2001). Jungyoll Hun, in his discussant’s comments, argued that in Korea the improvement in women’s education had not directly led to the improvement of their intrahousehold bargaining power. He also highlighted the key role of social norms and values—it was only in 1990, as the result of political organization by women’s groups, that key legal provisions were introduced that gave a woman the right to inherit their parent’s and husband’s property. While this observation does not resolve the “economic versus political intervention” argument, it should certainly be kept in mind in assessing the relative efficacy of the two types of interventions.

work clothes)<sup>28</sup>. Even though seven years ago, in light of the mounting evidence a manifesto was issued to “shift the burden of proof” to those who would argue in favor of the unitary model, this shift is not really seen in economics or even in development economics.<sup>29</sup> As a result, interventions that directly address inequality of power do not get as strong a support as they might from mainstream economics.

## V CONCLUSION

This paper has argued that the narrowly economic evidence can indeed be read as supporting the view that gender inequalities (in education in other variables) are not large, that they do not necessarily impede economic growth, and that in any case addressing gender inequalities of power should receive less priority than more conventional economic interventions. While those who hold these views could be dismissed as being in a minority, this would be a mistake. Despite the impressive synthesis represented by World Bank (2001), such views are more widespread than commonly realized, and are in any case intimately connected to the nature of economic evidence and the framework for interpreting them. Taking the views seriously leads to an interesting research and data collection agenda even in terms of conventional economic analysis.

Comparing the contribution of gender inequalities to overall inequality, with other divisions such as age or location, poses a basic conceptual problem because while gender has only two categories, other divisions tend to have more than two. There is thus a natural tendency for the contribution of gender to be understated. Correcting for this understatement raises interesting analytical questions—for example, how does the between-group component of decomposable inequality indices behave as the number of groups increases? Clearly, any general conclusions can only be reached in terms of the mathematical expectation of this component across all possible two-group divisions, versus all possible three-group divisions, four-group divisions, etc. I am not aware of such an analysis in the literature, but it is essential as the first step to an empirical

---

27 See the impressive compilation in Appendix 4 of World Bank (2001). The studies include: Browning and Chiappori (1998), Quisumbing and Maluccio (1999), Lundberg, Pollak and Wales (1997), Haddad and Hodinott (1994) and Thomas (1997).

28 As Chris Paxson pointed out in her discussant’s comments, some recent papers, by Duflo (2000), Chattopadhyay and Duflo (2001) and Case (2001b), are not subject to this type of criticism, and all provide strong evidence against the unitary model.

29 See Alderman et. al. (1995).

assessment of whether gender inequalities are “large” relative to inequalities along other dimensions.

However, more important than this technical question is that the costs of alternative forms of inequality reduction—gender based, country of residence based, rural-urban based, wealth-based, etc—need to be incorporated into the analysis before any conclusion can be reached that an inequality along a particular dimension is “large.” If by “large” is meant “that which policy should focus on as a priority”, the cost side of the intervention has to be analyzed, and that depends on the details of the policy instruments being used. Such specific analysis will in the end prove more productive than a debate on whether gender inequalities are large in the abstract, seen purely as a measurement issue.

Despite the evidence and arguments marshaled in World Bank (2001), there is not a groundswell of consensus in mainstream economics on the macroeconomic evidence for the positive benefits of gender equality for growth. Partly this is because the cross-country regressions based evidence on causality from inequality in general to growth in particular is decidedly mixed. Kanbur and Lustig (2000) noted that “the jury is still out” and, since then, studies have continued to appear that have supported one line or the other. It is also partly because, given that gender inequality in education is a key focus, the macroeconomic empirical literature on growth and education (in contrast to the microeconomic literature on education and income) is itself deeply inconclusive. These strands of the literature set the stage for skepticism on discovering strong causal connections between gender inequality and growth as the literature now stands. There is no alternative here but to persevere, at every level of the literature, with finding persuasive instrumental variables that can convince a skeptical profession that the causality issue really has been tackled, as well as continuing to improve the quality of the data sets.

After two decades of mounting evidence that indicates violations of the predictions of the unitary model of the household, mainstream economics still continues to use it as the workhorse model, and to teach it to its students as the dominant view of the profession. It is argued here that so long as the unitary model dominates economics teaching and discourse, inequalities of power will naturally get secondary importance in comparison

with standard economic (and social) interventions. This is something that needs to be tackled at the core of mainstream economics through yet more evidence on violations of the unitary model assumption, but also through the increased deployment of non-unitary approaches, in modeling and in empirical analysis, to “conventional” topics such as optimal taxation policy, consequences of trade for income distribution, composition of public expenditure, etc.<sup>30</sup> The intrahousehold development economics literature is, for the moment, ahead of the curve.

Thus the seemingly contrarian views on gender inequality link closely to the current state of development economics. Even within its own terms, taking these views seriously leads to very interesting lines of research. But, in conclusion, let us note that there is a vast realm of evidence produced by other disciplines and other methodologies, evidence that supports the view that gender inequalities are large, that they impede efficiency, and that inequality of power is fundamental. Such evidence is partially surveyed in World Bank (2001). But this evidence is typically qualitative in nature, differing in methods and interpretation from the typically quantitative approaches in economics. Taking qualitative approaches seriously, and integrating them with quantitative approaches, is another line of enquiry that stands out for development economics as it grapples with the fundamental issue of gender inequalities, their causes, and their consequences.<sup>31</sup>

---

<sup>30</sup> See, for example, the exercises in Kanbur and Haddad (1994), Haddad and Kanbur (1993), and Basu (2001).

<sup>31</sup> For an assessment of complementarities between qualitative and quantitative methods, and ways of combining them, see Kanbur (2001). On development economics and other social science disciplines, see Kanbur (2002).

## REFERENCES

- Aghion, Philippe, Eve Caroli and Cecilia Garcia-Penalosa. 1999. "Inequality and Economic growth: the Perspective of the New Growth Theories." *Journal of Economic Literature*, 37:4, 1615-1660.
- Alderman, H, P.A. Chiappori, L.Haddad, J. Hoddinott, and R. Kanbur. 1995, "Unitary versus Collective Models of the Household: Is it Time to Shift the Burden of Proof?" *World Bank Research Observer* 10: 1-19.
- Alesina, Alberto, and Dani Rodrik. 1994. "Distributive Politics and Economic Growth." *Quarterly Journal of Economics*, 109:2, 465-490.
- Alesina, Alberto, and Roberto Perotti. 1996. "Income Distribution, Political Stability and Investment." *European Economic Review*, 40:6, 1203-1228.
- Anand, Sudhir, and Ravi Kanbur. 1993. "Inequality and Development: A Critique." *Journal of Development Economics* 41: 19-43.
- Appleton, Simon, and Paul Collier. 1995. "On Gender Targeting of Public Transfers." In Dominique van de Walle and Kimberley Nead, eds. *Public Spending and the Poor: Theory and Evidence*. Baltimore, MD.: The Johns Hopkins University Press.
- Arguello, Ricardo. 2001. "An Exploration of the Relationship Between Inequality and Economic Growth. Mimeo, Department of Applied Economics and Management, Cornell University.
- Atkinson, Anthony and Andrea Brandolini. 2001. "Promises and Pitfalls in the Use of Secondary data Sets: A Case Study of OECD Income Inequality, *Journal of Economic Literature*.
- Banerjee, Abhijit, and Esther Duflo. 2000. "Inequality and Growth: What can the Data Say?" Mimeo, MIT.
- Barro, Robert, J., and Jong-Wha Lee. 1994. "Sources of Economic Growth." *Carnegie-Rochester Conference on Public Policy* 40: 1-46.
- Basu, K. 2001. "Gender and Say: An Intrahousehold Model of Household Behavior." CAE Working Paper, Cornell University.
- Benhabib, Jess, and Aldo Rustichini. 1996. "Social Conflict, Growth and Income Distribution." *Journal of Economic Growth*, 1:1, 125-142.
- Benhabib, Jess, and Mark Spiegel. 1994. "Role of Human Capital in Human development: Evidence from Aggregate Cross-Country Data." *Journal of Monetary Economics* 34 (October): 143-173.



- Browning M and P.A. Chiappori. "Efficient Intra-Household Allocation: A General Characterization and Empirical Tests." *Econometrica*, 66: 6, 1998, 1241-78.
- Buvinic, Mayra, and Geeta Rao Gupta. 1997. "Female Headed Households and female Maintained families: Are they Worth Targeting to Reduce Poverty in Developing Countries?" *Economic Development and Cultural Change* 45 (2): 259-280.
- Case, Anne. 2001a. "The Primacy of Education." Working Paper, Research Program in Development Studies, Princeton University.
- Case, Anne. 2001b. "Does Money Protect Health Status? Evidence from South African Pensions." Working Paper. Research Program in Development Studies, Princeton University.
- Chattopadhyay, Raghavendra and Esther Duflo. 2001. "Women as Policy makers: Evidence from an India-Wide Randomized Policy Experiment." Working Paper. Massachusetts Institute of Technology.
- Cohen, Daniel and Marcel Soto. 2001. "Growth and Human Capital: Good Data, Good Results." Technical Paper no. 179. OECD Development Centre, Paris.
- Dollar, David, and Roberta Gatti. 1999. "Gender Inequality, Income and Growth: Are Good Times Good for Women?" World Bank, Washington D.C. [www.worldbank.org/gender/prr/dg.pdf](http://www.worldbank.org/gender/prr/dg.pdf)
- Duflo, Esther. 2000. "Grandmothers and Granddaughters" Old Age Pension and Intra-household Allocation in South Africa." Working Paper. Massachusetts Institute of Technology.
- Easterly, William. 2001. *The Elusive Quest for Growth*, Cambridge, MA: MIT Press.
- Easterly, William. 2001a. "Inequality Does Cause Underdevelopment: New Evidence From Commodity Endowments, Middle Class Share, and Other Determinants of Per Capita Income." Mimeo, Center for Global Development—Institute for International Economics.
- Filmer, Deon. 1999. "The Structure of Social Disparities in Education: Gender and Wealth." World Bank, Washington, D.C. [www.worldbank.org/gender/prr/filmer.pdf](http://www.worldbank.org/gender/prr/filmer.pdf)
- Forbes, Kristin. 2000. "A Reassessment of the Relationship Between Inequality and Growth." *American Economic Review* 90: 4, 869-887.
- Foster, James, Joel Greer and Erik Thorbecke. 1984. "A Class of Decomposable Poverty Measures." *Econometrica* 52: 761-766.

- Ghosh, Suman, and Ravi Kanbur. 2002. "Male Wages and Female Welfare: Private Markets, Public Goods and Intra-household Inequality." Cornell University working paper, <http://www.arts.cornell.edu/poverty/kanbur/Ghosh-Kanbur%20.pdf>
- Haddad, Lawrence, and John Hoddinott. 1994. "Women's Income and Boy-Girl Anthropometric Status in Cote D'Ivoire." *World Development*, 22 (4): 543-553.
- Haddad, L, and R. Kanbur. 1990. "How serious is the neglect of Intra-household Inequality?" *Economic Journal* 100 (402): 866-881.
- Haddad, L, and R. Kanbur. 1993. "The value of Intra-household survey data for age-based nutritional targeting." *Annales d'Economie et de Statistique* 29: 65-81.
- Hoff, Karla and Andrew Lyon. 1995. "Non-leaky buckets: Optimal Redistributive taxation and agency costs." *Journal of Public Economics* 58: 365-390.
- Ilahi, Nadeem. 1999. "Gender and Allocation of Adult Time: What have we Learnt from the Empirical Literature?" World Bank, Washington D.C.  
[www.worldbank.org/gender/prr/wp13.pdf](http://www.worldbank.org/gender/prr/wp13.pdf)
- Jejeebhoy, Shireen, J. 1995. *Womens' Education, Autonomy, and Reproductive Behavior: Experience from Developing Countries*. New York: Oxford University Press.
- Judson, Ruth. 1996. "Do Low Human Capital Coefficients Make Sense? A Puzzle and Some Answers." Board of Governors of the federal Reserve System. Finance and Economics Discussion Series 96-13, March.
- Kanbur, Ravi. 1987. "Measurement and Alleviation of Poverty: With an Application to the Effects of Macroeconomic Adjustment." *I.M.F. Staff Papers* 36: 60-85.
- Kanbur, Ravi. 2000. "Income Distribution and Development," In Anthony Atkinson and Francois Bourguignon, eds. *Handbook of Income Distribution: Volume I*, Amsterdam: Elsevier.
- Kanbur, Ravi (Editor). 2001. "Qualitative and Quantitative Poverty Appraisal: Complementarities, Tensions and the Way Forward." Cornell University.  
[www.people.cornell.edu/pages/sk145/papers/QQZ.pdf](http://www.people.cornell.edu/pages/sk145/papers/QQZ.pdf)
- Kanbur, Ravi. 2002. "Economics, Social Science and Development." *World Development*, forthcoming.
- Kanbur, Ravi, and Lawrence Haddad. 1994. "Are Better off Households More Unequal or Less Unequal?" *Oxford Economic Papers*, 46: 445-458.

- Kanbur, Ravi, and Nora Lustig. 2000. "Why is Inequality Back on the Agenda?" *Proceedings of the Annual World Bank Conference on Development Economics 1999*. World Bank, Washington, D.C.
- Klasen, Stephan. 1999. Does Gender Inequality Reduce Growth and Development? Evidence from Cross-Country Regressions." World Bank, Washington, D.C. [www.worldbank.org/gender/prr/klasen.pdf](http://www.worldbank.org/gender/prr/klasen.pdf)
- Klenow, Peter, and Andres Rodriguez-Clare. 1997. "The Neoclassical Revival in Growth Economics: Has it Gone Too Far?" In Ben Bernanke and Julio Rotemberg, eds., *NBER Macroeconomics Annual 1997*. Cambridge, Mass.: MIT Press.
- Knowles, Stephen, Paula K. Lorgelly and P. Dorian. 2002. "Are Educational Gender Gaps a Brake on Economic Development? Some Cross-Country Empirical Evidence." *Oxford Economic Papers*.
- Lampietti, Julian A., and Linda Stalker. 2000. "Consumption Expenditure and Female Poverty: A Review of the Evidence." World Bank, Washington D.C. [www.worldbank.org/gender/prr/wp11.pdf](http://www.worldbank.org/gender/prr/wp11.pdf).
- Li, Hongyi, Lyn Squire, and Heng-fu Zou. 1998. "Explaining International and Intertemporal Variations in Income Inequality." *Economic Journal*, 108: 26-43.
- Li, Hongyi, and Heng-fu Zou. 1998. "Income Inequality is not Harmful to Growth: Theory and Evidence." *Review of Development Economics*, 2: 318-334.
- Lundberg, Shelley, Robert A. Pollak, and Terence J. Wales. 1997. "Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit." *Journal of Human Resources*, 32 (3): 463-480.
- Mammen, Kristin and Christina Paxson. 2000. "Women's Work and Economic Development." *Journal of Economic Perspectives*, 14 (4) : 141-164.
- Manser, M and M. Brown. 1980. "Marriage and household decisionmaking: A bargaining analysis." *International Economic Review* 21 (1):31-44.
- Morrissey, Oliver, Jennifer Mbabazi and Chris Milner. 2002. "The Fragility of Empirical Links Between Inequality, Trade Liberalization and Growth." mimeo, School of Economics, University of Nottingham.
- Persson, Torsten and Guido Tabellini. 1994. Is Inequality Harmful for Growth?" *American Economic Review*, 84:3, 600-621.
- Pritchett, L. 1997. "Where has all the Education Gone?" World Bank Policy Research Working Paper, no. 1581.

- Quisumbing, Agnes R., Lawrence Haddad, and Christine L. Pena. 2000. "Are Women Overrepresented Among the Poor? Poverty Measures and Dominance Analysis for Ten Developing Countries." Mimeo, International Food Policy Research Institute, Washington, D.C.
- Quisumbing, Agnes R., and John Maluccio. 1999. "Intrahousehold Allocation and Gender Relations: New Empirical Evidence." World Bank, Washington, D.C. [www.worldbank.org/gender/prr/qm.pdf](http://www.worldbank.org/gender/prr/qm.pdf)
- Ravallion, Martin, and K. Chao. 1989. "Targeted Policies for Poverty Alleviation Under Imperfect Information." *Journal of Policy Modeling*, 11: 213-224.
- Ravallion, Martin and Binayak Sen. 1994. "Impacts on Rural Poverty of Land-Based Targeting." *World Development* 22:823-838.
- Schultz, T. Paul. 2001. "Why Governments Should Make Investments to Educate Girls." Working Paper, Yale University.
- Shorrocks, Anthony, F. 1984. "Inequality Decomposition by Population Subgroups." *Econometrica* 52: 1369-1385.
- Singh, I.J., L. Squire and J. Strauss. 1986. *Agriculture Household Models: Extensions, Applications and Policy*. Baltimore: Johns Hopkins University Press.
- Thomas, Duncan. 1997. "Incomes, Expenditures and Health Outcomes: Evidence on Intrahousehold Resource Allocation." In Lawrence Haddad, John Hoddinott and Harold Alderman, eds., *Intrahousehold Resource Allocation in Developing countries: Models, Methods and Policy*. Baltimore, MD.: The Johns Hopkins Press.
- Tzannatos, Zafiris. 1999. "Women and Labor Market Changes: Growth Helps, Inequalities Hurt and Public Policy Matters." *World Development* 27 (3): 551-69.
- World Bank. 2001. *Engendering Development Through Gender Equality in Rights, Resources, and Voice*. New York: Oxford University Press.



## CREDIT PAPERS

- 00/1 **Robert Lensink**, “Does Financial Development Mitigate Negative Effects of Policy Uncertainty on Economic Growth?”
- 00/2 **Oliver Morrissey**, “Investment and Competition Policy in Developing Countries: Implications of and for the WTO”
- 00/3 **Jo-Ann Crawford and Sam Laird**, “Regional Trade Agreements and the WTO”
- 00/4 **Sam Laird**, “Multilateral Market Access Negotiations in Goods and Services”
- 00/5 **Sam Laird**, “The WTO Agenda and the Developing Countries”
- 00/6 **Josaphat P. Kweka and Oliver Morrissey**, “Government Spending and Economic Growth in Tanzania, 1965-1996”
- 00/7 **Henrik Hansen and Fin Tarp**, “Aid and Growth Regressions”
- 00/8 **Andrew McKay, Chris Milner and Oliver Morrissey**, “The Trade and Welfare Effects of a Regional Economic Partnership Agreement”
- 00/9 **Mark McGillivray and Oliver Morrissey**, “Aid Illusion and Public Sector Fiscal Behaviour”
- 00/10 **C.W. Morgan**, “Commodity Futures Markets in LDCs: A Review and Prospects”
- 00/11 **Michael Bleaney and Akira Nishiyama**, “Explaining Growth: A Contest between Models”
- 00/12 **Christophe Muller**, “Do Agricultural Outputs of Autarkic Peasants Affect Their Health and Nutrition? Evidence from Rwanda”
- 00/13 **Paula K. Lorgelly**, “Are There Gender-Separate Human Capital Effects on Growth? A Review of the Recent Empirical Literature”
- 00/14 **Stephen Knowles and Arlene Garces**, “Measuring Government Intervention and Estimating its Effect on Output: With Reference to the High Performing Asian Economies”
- 00/15 **I. Dasgupta, R. Palmer-Jones and A. Parikh**, “Between Cultures and Markets: An Eclectic Analysis of Juvenile Gender Ratios in India”
- 00/16 **Sam Laird**, “Dolphins, Turtles, Mad Cows and Butterflies – A Look at the Multilateral Trading System in the 21<sup>st</sup> Century”
- 00/17 **Carl-Johan Dalgaard and Henrik Hansen**, “On Aid, Growth, and Good Policies”
- 01/01 **Tim Lloyd, Oliver Morrissey and Robert Osei**, “Aid, Exports and Growth in Ghana”
- 01/02 **Christophe Muller**, “Relative Poverty from the Perspective of Social Class: Evidence from The Netherlands”
- 01/03 **Stephen Knowles**, “Inequality and Economic Growth: The Empirical Relationship Reconsidered in the Light of Comparable Data”
- 01/04 **A. Cuadros, V. Orts and M.T. Alguacil**, “Openness and Growth: Re-Examining Foreign Direct Investment and Output Linkages in Latin America”
- 01/05 **Harold Alderman, Simon Appleton, Lawrence Haddad, Lina Song and Yisehac Yohannes**, “Reducing Child Malnutrition: How Far Does Income Growth Take Us?”

- 01/06 **Robert Lensink and Oliver Morrissey**, “Foreign Direct Investment: Flows, Volatility and Growth”
- 01/07 **Adam Blake, Andrew McKay and Oliver Morrissey**, “The Impact on Uganda of Agricultural Trade Liberalisation”
- 01/08 **R. Quentin Grafton, Stephen Knowles and P. Dorian Owen**, “Social Divergence and Economic Performance”
- 01/09 **David Byrne and Eric Strobl**, “Defining Unemployment in Developing Countries: The Case of Trinidad and Tobago”
- 01/10 **Holger Görg and Eric Strobl**, “The Incidence of Visible Underemployment: Evidence for Trinidad and Tobago”
- 01/11 **Abbi Mamo Kedir**, “Some Issues in Using Unit Values as Prices in the Estimation of Own-Price Elasticities: Evidence from Urban Ethiopia”
- 01/12 **Eric Strobl and Frank Walsh**, “Minimum Wages and Compliance: The Case of Trinidad and Tobago”
- 01/13 **Mark McGillivray and Oliver Morrissey**, “A Review of Evidence on the Fiscal Effects of Aid”
- 01/14 **Tim Lloyd, Oliver Morrissey and Robert Osei**, “Problems with Pooling in Panel Data Analysis for Developing Countries: The Case of Aid and Trade Relationships”
- 01/15 **Oliver Morrissey**, “Pro-Poor Conditionality for Aid and Debt Relief in East Africa”
- 01/16 **Zdenek Drabek and Sam Laird**, “Can Trade Policy help Mobilize Financial Resources for Economic Development?”
- 01/17 **Michael Bleaney and Lisenda Lisenda**, “Monetary Policy After Financial Liberalisation: A Central Bank Reaction Function for Botswana”
- 01/18 **Holger Görg and Eric Strobl**, “Relative Wages, Openness and Skill-Biased Technological Change in Ghana”
- 01/19 **Dirk Willem te Velde and Oliver Morrissey**, “Foreign Ownership and Wages: Evidence from Five African Countries”
- 01/20 **Suleiman Abrar**, “Duality, Choice of Functional Form and Peasant Supply Response in Ethiopia”
- 01/21 **John Rand and Finn Tarp**, “Business Cycles in Developing Countries: Are They Different?”
- 01/22 **Simon Appleton**, “Education, Incomes and Poverty in Uganda in the 1990s”
- 02/01 **Eric Strobl and Robert Thornton**, “Do Large Employers Pay More in Developing Countries? The Case of Five African Countries”
- 02/02 **Mark McGillivray and J. Ram Pillarisetti**, “International Inequality in Human Development, Real Income and Gender-related Development”
- 02/03 **Sourafel Girma and Abbi M. Kedir**, “When Does Food Stop Being a Luxury? Evidence from Quadratic Engel Curves with Measurement Error”
- 02/04 **Indraneel Dasgupta and Ravi Kanbur**, “Class, Community, Inequality”
- 02/05 **Karuna Gomanee, Sourafel Girma and Oliver Morrissey**, “Aid and Growth in Sub-Saharan Africa: Accounting for Transmission Mechanisms”
- 02/06 **Michael Bleaney and Marco Gunderman**, “Stabilisations, Crises and the “Exit” Problem – A Theoretical Model”

- 02/07 **Eric Strobl and Frank Walsh**, “Getting It Right: Employment Subsidy or Minimum Wage? Evidence from Trinidad and Tobago”
- 02/08 **Carl-Johan Dalgaard, Henrik Hansen and Finn Tarp**, “On the Empirics of Foreign Aid and Growth”
- 02/09 **Teresa Alguacil, Ana Cuadros and Vincente Orts**, “Does Saving Really Matter for Growth? Mexico (1970-2000)”
- 02/10 **Simon Feeny and Mark McGillivray**, “Modelling Inter-temporal Aid Allocation”
- 02/11 **Mark McGillivray**, “Aid, Economic Reform and Public Sector Fiscal Behaviour in Developing Countries”
- 02/12 **Indraneel Dasgupta and Ravi Kanbur**, “How Workers Get Poor *Because* Capitalists Get Rich: A General Equilibrium Model of Labor Supply, Community, and the Class Distribution of Income”
- 02/13 **Lucian Cernat, Sam Laird and Alessandro Turrini**, “How Important are Market Access Issues for Developing Countries in the Doha Agenda?”
- 02/14 **Ravi Kanbur**, “Education, Empowerment and Gender Inequalities”



## SCHOOL OF ECONOMICS DISCUSSION PAPERS

In addition to the CREDIT series of research papers the School of Economics produces a discussion paper series dealing with more general aspects of economics. Below is a list of recent titles published in this series.

- 00/1 **Tae-Hwan Kim and Christophe Muller**, “Two-Stage Quantile Regression”
- 00/2 **Spiros Bougheas, Panicos O. Demetrides and Edgar L.W. Morgenroth**, “International Aspects of Public Infrastructure Investment”
- 00/3 **Michael Bleaney**, “Inflation as Taxation: Theory and Evidence”
- 00/4 **Michael Bleaney**, “Financial Fragility and Currency Crises”
- 00/5 **Sourafel Girma**, “A Quasi-Differencing Approach to Dynamic Modelling from a Time Series of Independent Cross Sections”
- 00/6 **Spiros Bougheas and Paul Downward**, “The Economics of Professional Sports Leagues: A Bargaining Approach”
- 00/7 **Marta Aloi, Hans Jørgen Jacobsen and Teresa Lloyd-Braga**, “Endogenous Business Cycles and Stabilization Policies”
- 00/8 **A. Ghoshray, T.A. Lloyd and A.J. Rayner**, “EU Wheat Prices and its Relation with Other Major Wheat Export Prices”
- 00/9 **Christophe Muller**, “Transient-Seasonal and Chronic Poverty of Peasants: Evidence from Rwanda”
- 00/10 **Gwendolyn C. Morrison**, “Embedding and Substitution in Willingness to Pay”
- 00/11 **Claudio Zoli**, “Inverse Sequential Stochastic Dominance: Rank-Dependent Welfare, Deprivation and Poverty Measurement”
- 00/12 **Tae-Hwan Kim, Stephen Leybourne and Paul Newbold**, “Unit Root Tests With a Break in Variance”
- 00/13 **Tae-Hwan Kim, Stephen Leybourne and Paul Newbold**, “Asymptotic Mean Squared Forecast Error When an Autoregression With Linear Trend is Fitted to Data Generated by an I(0) or I(1) Process”
- 00/14 **Michelle Haynes and Steve Thompson**, “The Productivity Impact of IT Deployment: An Empirical Evaluation of ATM Introduction”
- 00/15 **Michelle Haynes, Steve Thompson and Mike Wright**, “The Determinants of Corporate Divestment in the UK”
- 00/16 **John Beath, Robert Owen, Joanna Poyago-Theotoky and David Ulph**, “Optimal Incentives for Incoming Generations within Universities”
- 00/17 **S. McCorrison, C. W. Morgan and A. J. Rayner**, “Price Transmission: The Interaction Between Firm Behaviour and Returns to Scale”
- 00/18 **Tae-Hwan Kim, Douglas Stone and Halbert White**, “Asymptotic and Bayesian Confidence Intervals for Sharpe Style Weights”
- 00/19 **Tae-Hwan Kim and Halbert White**, “James-Stein Type Estimators in Large Samples with Application to the Least Absolute Deviation Estimator”
- 00/20 **Gwendolyn C. Morrison**, “Expected Utility and the Endowment Effect: Some Experimental Results”
- 00/21 **Christophe Muller**, “Price Index Distribution and Utilitarian Social Evaluation Functions”

- 00/22 **Michael Bleaney**, “Investor Sentiment, Discounts and Returns on Closed-End Funds”
- 00/23 **Richard Cornes and Roger Hartley**, “Joint Production Games and Share Functions”
- 00/24 **Joanna Poyago-Theotoky**, “Voluntary Approaches, Emission Taxation and the Organization of Environmental R&D”
- 00/25 **Michael Bleaney, Norman Gemmell and Richard Kneller**, “Testing the Endogenous Growth Model: Public Expenditure, Taxation and Growth Over the Long-Run”
- 00/26 **Michael Bleaney and Marco Gundermann**, “Credibility Gains and Output Losses: A Model of Exchange Rate Anchors”
- 00/27 **Indraneel Dasgupta**, “Gender Biased Redistribution and Intra-Household Distribution”
- 00/28 **Richard Cornes and Roger Hartley**, “Rentseeking by Players with Constant Absolute Risk Aversion”
- 00/29 **S.J. Leybourne, P. Newbold, D. Vougas and T. Kim**, “A Direct Test for Cointegration Between a Pair of Time Series”
- 00/30 **Claudio Zoli**, “Inverse Stochastic Dominance, Inequality Measurement and Gini Indices”
- 01/01 **Spiros Bougeas**, “Optimism, Education, and Industrial Development”
- 01/02 **Tae-Hwan Kim and Paul Newbold**, “Unit Root Tests Based on Inequality-Restricted Estimators”
- 01/03 **Christophe Muller**, “Defining Poverty Lines as a Fraction of Central Tendency”
- 01/04 **Claudio Piga and Joanna Poyago-Theotoky**, “Shall We Meet Halfway? Endogenous Spillovers and Locational Choice”
- 01/05 **Ilias Skamnelos**, “Sunspot Panics, Information-Based Bank Runs and Suspension of Deposit Convertibility”
- 01/06 **Spiros Bougeas and Yannis Georgellis**, “Apprenticeship Training, Earnings Profiles and Labour Turnover: Theory and German Evidence”
- 01/07 **M.J. Andrews, S. Bradley and R. Upward**, “Employer Search, Vacancy Duration and Skill Shortages”
- 01/08 **Marta Aloi and Laurence Lasselle**, “Growing Through Subsidies”
- 01/09 **Marta Aloi and Huw D. Dixon**, “Entry Dynamics, Capacity Utilisation, and Productivity in a Dynamic Open Economy”
- 01/10 **Richard Cornes and Roger Hartley**, “Asymmetric Contests with General Technologies”
- 01/11 **Richard Cornes and Roger Hartley**, “Disguised Aggregative Games”
- 01/12 **Spiros Bougeas and Tim Worrall**, “Cost Padding in Regulated Monopolies”
- 10/13 **Alan Duncan, Gillian Paull and Jayne Taylor**, “Price and Quality in the UK Childcare Market”
- 01/14 **John Creedy and Alan Duncan**, “Aggregating Labour Supply and Feedback Effects in Microsimulation”



## Members of the Centre

### Director

**Oliver Morrissey** - aid policy, trade and agriculture

### Research Fellows (Internal)

**Simon Appleton** – poverty, education, household economics

**Adam Blake** – CGE models of low-income countries

**Mike Bleaney** - growth, international macroeconomics

**Indraneel Dasgupta** – development theory, household bargaining

**Norman Gemmell** – growth and public sector issues

**Ken Ingersent** - agricultural trade

**Tim Lloyd** – agricultural commodity markets

**Andrew McKay** - poverty, peasant households, agriculture

**Chris Milner** - trade and development

**Wyn Morgan** - futures markets, commodity markets

**Christophe Muller** – poverty, household panel econometrics

**Tony Rayner** - agricultural policy and trade

### Research Fellows (External)

**David Fielding** (*University of Leicester*) – investment, monetary and fiscal policy

**Ravi Kanbur** (*Cornell*) – inequality, public goods – Visiting Research Fellow

**Henrik Hansen** (*University of Copenhagen*) – aid and growth

**Stephen Knowles** (*University of Otago*) – inequality and growth

**Sam Laird** (*UNCTAD*) – trade policy, WTO

**Robert Lensink** (*University of Groningen*) – aid, investment, macroeconomics

**Scott McDonald** (*University of Sheffield*) – CGE modelling, agriculture

**Mark McGillivray** (*WIDER, Helsinki*) – aid allocation, aid policy

**Doug Nelson** (*Tulane University*) - political economy of trade

**Shelton Nicholls** (*University of West Indies*) – trade, integration

**Eric Strobl** (*University College Dublin*) – labour markets

**Finn Tarp** (*University of Copenhagen*) – aid, CGE modelling