



The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.



ZEF Bonn

Zentrum für Entwicklungsforschung
Center for Development Research

Universität Bonn

Oded Stark

Number

95

**Status Aspirations, Wealth
Inequality, and Economic
Growth**

ZEF – Discussion Papers on Development Policy
Bonn, February 2005

The CENTER FOR DEVELOPMENT RESEARCH (ZEF) was established in 1995 as an international, interdisciplinary research institute at the University of Bonn. Research and teaching at ZEF aims to contribute to resolving political, economic and ecological development problems. ZEF closely cooperates with national and international partners in research and development organizations. For information, see: <http://www.zef.de>.

ZEF – DISCUSSION PAPERS ON DEVELOPMENT POLICY are intended to stimulate discussion among researchers, practitioners and policy makers on current and emerging development issues. Each paper has been exposed to an internal discussion within the Center for Development Research (ZEF) and an external review. The papers mostly reflect work in progress.

Oded Stark: Status Aspirations, Wealth Inequality, and Economic Growth, ZEF – Discussion Papers On Development Policy No. 95, Center for Development Research, Bonn, February 2005, pp. 9.

ISSN: 1436-9931

Published by:

Zentrum für Entwicklungsforschung (ZEF)
Center for Development Research
Walter-Flex-Strasse 3
D – 53113 Bonn
Germany
Phone: +49-228-73-1861
Fax: +49-228-73-1869
E-Mail: zef@uni-bonn.de
<http://www.zef.de>

The author:

Oded Stark, Center for Development Research (ZEF), Bonn, Germany; University of Vienna, Austria; Warsaw University, Warsaw, Poland; ESCE Economic and Social Research Center, Cologne and Eisenstadt, Germany (contact: ostark@uni-bonn.de).

Acknowledgements

Partial financial support from the Humboldt Foundation and the Sohmen Foundation is gratefully acknowledged.

Abstract

This paper argues that an increase in the inequality of wealth prompts a stronger quest for status that in turn fosters the accumulation of wealth. It proposes a measure for an individual's want of social status. For a given level of a population's wealth, the corresponding aggregate measure of want of social status is shown to be positively related to the Gini coefficient of wealth inequality. Hence the Gini coefficient and growth are positively correlated, holding the population's wealth constant.

Kurzfassung

Dieser Diskussionsbeitrag zeigt, dass eine Zunahme des Wohlstandsgefälles ein stärkeres Streben nach Status nach sich zieht, was wiederum die Anhäufung von Wohlstand fördert. Es schlägt ein Maß für das individuelle Streben nach sozialem Status vor. Für ein gegebenes Niveau des Wohlstandes einer Bevölkerung steht das entsprechende aggregierte Maß des Strebens nach sozialem Status in positiver Beziehung zum Gini-Koeffizienten der Ungleichheit des Wohlstandes. Somit korrelieren der Gini-Koeffizient und das Wachstum positiv miteinander und halten dadurch den Wohlstand einer Bevölkerung konstant.

Keywords: Quest for status; Distribution of wealth; Economic growth

JEL classification: A13; A14; D31; D63; O40

The relationship between inequality in the distribution of wealth and growth is not akin to the causal direct links between technological advancement and growth, or between per worker capital and growth. Thus, there is an understandable need to identify an intervening variable and lay out the associated chain of interactions. This demand has recently been met by several creative suppliers. Zweimüller (2000) introduces the incentive to innovate and the demand for innovation as the intervening variable between wealth inequality and growth. With a hierarchy of wants and wealth concentrated in the hands of a small group of wealthy people, only the members of this group buy the product of the most recent innovator. Consequently, the market for his product is small. A redistribution from the wealthy to the poor that would leave the wealthy rich enough to continue buying the product but at the same time enable the poor to buy the product would facilitate a faster increase in the size of the market for the product, increase the profitability of innovations, and foster growth. To Fishman and Simhon (2002) the intervening variable of choice is the division of labor. When increased specialization requires the investment of real resources, borrowing is constrained and capital markets are incomplete, individuals who command little wealth may not be able to invest in specialization. Hence, economies with a highly unequal distribution of wealth may not be able to achieve a division of labor that is conducive to growth. Perhaps the most intriguing of the recent forays is that of Corneo and Jeanne (2001) who single out the quest for social status as the intervening variable between wealth inequality and growth. Succinctly put, their argument is as follows: “By increasing the dispersion of wealth levels, more inequality discourages those who are relatively poor from catching up with the rich in the contest for social status. In turn, this weakens the incentives for the relatively rich to accumulate wealth in order to defend their social status. As a consequence, the status motive inducing people to accumulate wealth is weaker for everyone under a more unequal distribution of wealth. The resulting rate at which aggregate wealth is accumulated is therefore slower” (p. 284). The purpose of this paper is to suggest an appealing and alternative measure of social status and to show that the incorporation of this measure might give rise to an outcome that is the opposite of the result eloquently derived by Corneo and Jeanne.

Corneo and Jeanne’s measure of the social status of individual i , whose wealth is w_i , is the fraction of those whose wealth is less than or equal to the wealth of i . If $F(\cdot)$ is the continuous cumulative distribution function of wealth, then, according to Corneo and Jeanne, i ’s rank in the wealth distribution is given by $F(w_i)$. The intensity of the incentive of i to “respond” to his rank is determined by $F(w_i)$. I find it more convenient to use the index $1 - F(w_i)$, the fraction of those in the population whose wealth is higher than w_i .

Consider a population that consists of two individuals whose wealth levels are $w_1 = 100$ and $w_2 = 100$. In this population, no individual should be expected to act in any way to improve his social status because each and every individual enjoys the highest possible social status: $1 - F(w_i) = 0 \quad \forall i$. Suppose, alternatively, that the wealth levels are $w_1 = 100$ and $w_2 = 101$. While individual 2 has the highest possible social status and, as before, should not be expected to act in any way to improve his status, individual 1, with $1 - F(w_1) = \frac{1}{2}$, can secure a status gain if his level of wealth rises to 101. The population-wide incentive to accumulate wealth is higher when the wealth distribution is unequal (100, 101) than when it is equal (100, 100). Consider next a third configuration of incomes: $w_1 = 100$ and $w_2 = 200$. While the rank measure $1 - F(w_i)$ remains unchanged $\left(1 - F(w_1) = \frac{1}{2}, 1 - F(w_2) = 0\right)$, it is utterly unlikely that individual 1 will be indifferent between having 100 in a (100, 200) population and having 100 in a (100, 101) population.

The first tentative conclusion is that the crude rank measure $1 - F(w_i)$ is not sufficiently sensitive to all the rank-related information. A properly sensitive measure can be obtained when the proportion of individuals who are wealthier than the individual whose wealth is w , $1 - F(w)$, is weighted (multiplied) by the mean excess wealth of these individuals, $E(x - w | x > w)$, such that a given proportion of wealthier individuals who are little wealthier will confer a weaker sense of social status deprivation, SSD, than the same given proportion of wealthier individuals who are a great deal wealthier.¹ Indeed, since for any finite w , $SSD(w) \equiv [1 - F(w)]E(x - w | x > w) = \int_w^\infty [1 - F(x)]dx \neq 1 - F(w)$,² the revised elaborate measure of “want of social status” will be adversely affected not only by a rise in the share of individuals in the population who are wealthier than the reference individual (the individual whose wealth is w), but also by a rise in the level of wealth of any of these individuals.

Given the elaborate measure of lack of social status, SSD, do individuals who are – in terms of this measure – more deprived, more strongly inclined to exert effort in order to accumulate wealth? A comparison of 100 with 200 brings about greater dismay than a comparison of 100 with 101, which in turn invites and induces a greater effort to reduce the associated social status deprivation. On the other hand, 100 compared to 101 requires a smaller effort to erase the felt social deprivation than 100 compared to 200, perhaps rendering the exertion of the requisite effort more likely. Corneo and Jeanne are of the opinion that it is more

¹ This measure is extricated from a large body of work by social psychologists, especially Runciman (1966). Based on that work, a set of axioms was formulated and several propositions were stated and proved, yielding the exhibited formula of SSD. For a detailed exposition see Stark (1993).

² The proof is in Appendix 1.

likely that effort will be spent in the (100, 101) case than in the (100, 200) case, which prompts them to conjecture that increased inequality is detrimental to wealth accumulation. Yet, as long as the set of the two individuals constitutes the reference group for each of the two individuals, effort exertion will increase in the level of social status deprivation of the lower-wealth individual. Given the tension between two perspectives that are logically appealing yet competing, consulting evidence that bears on the issue could be of help. Three pieces of evidence come readily to mind. They originate in a study of migration in response to relative deprivation, in a case study of the effort exerted by Japanese fishermen, and in an analysis of the structure of performance incentives in career games and other contests. As it turns out, these three studies suggest that effort is *rising* in the level of status deprivation rather than declining.

A study of the migration response to relative deprivation by Mexican households, where relative deprivation is measured exactly as SSD except that income replaces wealth, reveals that when “absolute income is controlled for, relatively deprived households are more likely to engage in international migration than are households more favourably situated in their village’s income distribution.” (Stark, 1993, p. 160). The evidence is *not* that households that are more relatively deprived are more likely to migrate. Rather, the more relatively deprived households are more likely to have a household member migrating while the household itself remains at the village of origin which, in turn, continues to constitute the household’s reference group. The purpose of migration from a household is to reduce the relative deprivation sensed by the household *at origin*. A comparison of three groups of Japanese fishermen (Gaspard and Seki, 2003) suggests that a larger within-groups heterogeneity (in terms of fish-catching performance) results in the lower-performing members of the group exerting more fishing effort. An analysis of the pay structure in corporations and of the prize structure in sport tournaments suggests that in order to preserve performance incentives, rewards are raised as rungs are stepped up. Stark (1990, p. 216) argues that “the intensity of effort to move up depends positively on how much relative deprivation there is to be gotten rid of. As one climbs the ladder, the proportion of those whose rank is higher declines. To counter the erosion of relative deprivation, it is therefore necessary to *increase* the second term; that is, the mean excess income, hence top prizes, must increase.” Stark shows that the salary structure of executives, the variation across salary structures, the structure of prize money by rank in golf tournaments, as well as other architectures of pay and rewards, share the feature of “elevating the top prizes [so as to lengthen] the ladder for higher-ranking contestants” (Rosen 1986, p. 713). That higher-ranked positions are rewarded by a higher pay because such positions entail rising levels of responsibility is not the issue. Rather, the question that the analysis has sought to address is why is it that the payment *increments* rise as one climbs the ladder.

It is possible to sum up the individual wants of social status in order to obtain an aggregate measure of the population-wide want of social status, TSSD. It is further possible to show that this measure is *positively* related to the Gini coefficient of inequality of the distribution

of wealth, G .³ Specifically, it is shown in Appendix 2 that $\left(\sum_{i=1}^n w_i\right) \cdot G = TSSD$, where w_i is the level of wealth of i , $i=1, \dots, n$. We next present an example that illustrates our main idea in a setting in which there are three (rather than two) individuals, and wherein the total level of wealth is held constant. Consider the following three configurations of income:

$$\begin{aligned} P_1 &= (1/10, 45/100, 45/100); \\ P_2 &= (1/10, 4/10, 5/10); \\ P_3 &= (1/10, 3/10, 6/10). \end{aligned}$$

Since $\sum_{i=1}^3 w_i = 1 \quad \forall P_i$, we have that $G=TSSD=7/30$ for P_1 ; $G=TSSD=8/30$ for P_2 ; and $G=TSSD=10/30$ for P_3 . In all three configurations, the individual with wealth $1/10$ is equally relatively deprived and hence will exert the same level of effort. But the Gini coefficient is not equal across all configurations. As constructed, there is a higher Gini coefficient in P_3 than in P_2 and, indeed, a higher relative deprivation for the second individual in P_3 than in P_2 – hence a stronger inclination by him to exert effort. Thus, we infer that a higher Gini coefficient is associated with a stronger inclination to exert effort in order to accumulate wealth for the population as a whole, even though the higher TSSD does not arise from a higher SSD for all the individuals concerned. Since a higher TSSD reflects a stronger intensity of the motive to accumulate wealth for a given level of a population's wealth, it follows that the Gini coefficient and growth will be positively correlated, holding the population's wealth constant. Corneo and Jeanne point to a negative correlation. Presumably further reflection and additional study of how the preference for improved social status and economic growth interact are warranted.

³ The derivations are in Appendix 2.

Appendix 1

We provide a proof that social status deprivation, SSD, can be written either as

$$\int_w^{\infty} [1 - F(x)] dx \text{ or as } [1 - F(w)] \cdot E(x - w | x > w).$$

From integration by parts we obtain that

$$\int_w^{\infty} [1 - F(x)] dx = [1 - F(x)]x \Big|_w^{\infty} + \int_w^{\infty} xf(x) dx.$$

Since, as shown below, $\lim_{x \rightarrow \infty} [1 - F(x)]x = 0$ and since $f(x | x > w) = \frac{1}{1 - F(w)} f(x)$, it follows that

$$\begin{aligned} \int_w^{\infty} [1 - F(x)] dx &= -[1 - F(w)]w + [1 - F(w)] \int_w^{\infty} xf(x | x > w) dx \\ &= [1 - F(w)] \cdot [E(x | x > w) - w] \\ &= [1 - F(w)] \cdot E(x - w | x > w). \end{aligned}$$

In order to show that $\lim_{x \rightarrow \infty} [1 - F(x)]x = 0$, we note that

$$1 - F(x) = P(X \geq x) \leq P(|X| \geq x) \leq \frac{VarX}{x^2},$$

where the last inequality is Chebyshev's inequality. Upon multiplying the end sides by x and taking limits we obtain that for a finite variance:

$$0 \leq \lim_{x \rightarrow \infty} x[1 - F(x)] \leq \lim_{x \rightarrow \infty} \frac{VarX}{x} = 0.$$

□

Appendix 2

We provide a proof that the aggregate, population-wide want of social status, TSSD, is equal to the population's wealth times the Gini coefficient of inequality of the distribution of wealth. We refer to the discrete case.

Let the levels of wealth of the n individuals who constitute the population be ordered:

$$W = \{w_1 \leq w_2 \leq \dots \leq w_n\}.$$

Define the want of social status of an individual whose wealth level is w_i , $i = 1, 2, \dots, n-1$ as

$$SSD(w_i) = \frac{1}{n} \sum_{j=i+1}^n (w_j - w_i)$$

where it is understood that $SSD(w_n) = 0$.

Therefore, the aggregate want of social status is

$$TSSD = \frac{1}{n} \sum_{i=1}^{n-1} \sum_{j=i+1}^n (w_j - w_i).$$

The Gini coefficient is defined as

$$G = \frac{\frac{1}{2n^2} \sum_{i=1}^n \sum_{j=1}^n |w_i - w_j|}{\bar{w}}$$

where $\bar{w} = \frac{1}{n} \sum_{i=1}^n w_i$.

Since

$$\sum_{i=1}^n \sum_{j=1}^n |w_i - w_j| = 2 \sum_{i=1}^{n-1} \sum_{j=i+1}^n (w_j - w_i),$$

it follows that

$$\begin{aligned}\bar{w}G &= \frac{1}{2n^2} 2 \sum_{i=1}^{n-1} \sum_{j=i+1}^n (w_j - w_i) \\ &= \frac{1}{n^2} \sum_{i=1}^{n-1} \sum_{j=i+1}^n (w_j - w_i),\end{aligned}$$

or that

$$\left(\sum_{i=1}^n w_i \right) G = \frac{1}{n} \sum_{i=1}^{n-1} \sum_{j=i+1}^n (w_j - w_i) = TSSD. \quad \square$$

When the wealth levels are 100 and 101, $G = \frac{1}{402}$ and $TSSD = \frac{1}{2}$, whereas when the wealth levels are 100 and 200, $G = \frac{1}{6}$ and $TSSD = 50$. A higher G is associated with a higher $TSSD$.

References

- Corneo, Giacomo and Jeanne, Olivier. 2001. "Status, the Distribution of Wealth, and Growth." *Scandinavian Journal of Economics* 103, pp. 283-293.
- Fishman, Arthur and Simhon, Avi. 2002. "The Division of Labor, Inequality and Growth." *Journal of Economic Growth* 7, pp. 117-136.
- Gaspart, Frédéric and Seki, Erika. 2003. "Cooperation, Status Seeking and Competitive Behaviour: Theory and Evidence." *Journal of Economic Behavior and Organization* 51, pp. 51-77.
- Rosen, Sherwin. 1986. "Prizes and Incentives in Elimination Tournaments." *American Economic Review* 76, pp. 701-715.
- Runciman, Walter G. 1966. *Relative Deprivation and Social Justice: A Study of Attitudes to Social Inequality in Twentieth-Century England*. Berkeley: University of California Press.
- Stark, Oded. 1990. "A Relative Deprivation Approach to Performance Incentives in Career Games and Other Contests." *Kyklos* 43, pp. 211-227.
- Stark, Oded. 1993. *The Migration of Labor*. Oxford and Cambridge, MA: Blackwell.
- Zweimüller, Josef. 2000. "Schumpeterian Entrepreneurs Meet Engel's Law: The Impact of Inequality on Innovation-Driven Growth." *Journal of Economic Growth* 5, pp. 185-206.

The following papers have been published so far:

- | | | |
|--------|--|--|
| No. 1 | Ulrike Grote,
Arnab Basu,
Diana Weinhold | Child Labor and the International Policy Debate
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 1998, pp. 47. |
| No. 2 | Patrick Webb,
Maria Iskandarani | Water Insecurity and the Poor: Issues and Research Needs
Zentrum für Entwicklungsforschung (ZEF), Bonn,
Oktober 1998, pp. 66. |
| No. 3 | Matin Qaim,
Joachim von Braun | Crop Biotechnology in Developing Countries: A
Conceptual Framework for Ex Ante Economic Analyses
Zentrum für Entwicklungsforschung (ZEF), Bonn,
November 1998, pp. 24. |
| No. 4 | Sabine Seibel,
Romeo Bertolini,
Dietrich Müller-Falcke | Informations- und Kommunikationstechnologien in
Entwicklungsländern
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 1999, pp. 50. |
| No. 5 | Jean-Jacques Dethier | Governance and Economic Performance: A Survey
Zentrum für Entwicklungsforschung (ZEF), Bonn,
April 1999, pp. 62. |
| No. 6 | Mingzhi Sheng | Lebensmittelhandel und Kosumtrends in China
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 1999, pp. 57. |
| No. 7 | Arjun Bedi | The Role of Information and Communication Technologies
in Economic Development – A Partial Survey
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 1999, pp. 42. |
| No. 8 | Abdul Bayes,
Joachim von Braun,
Rasheda Akhter | Village Pay Phones and Poverty Reduction: Insights from
a Grameen Bank Initiative in Bangladesh
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 1999, pp. 47. |
| No. 9 | Johannes Jütting | Strengthening Social Security Systems in Rural Areas of
Developing Countries
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 1999, pp. 44. |
| No. 10 | Mamdouh Nasr | Assessing Desertification and Water Harvesting in the
Middle East and North Africa: Policy Implications
Zentrum für Entwicklungsforschung (ZEF), Bonn,
July 1999, pp. 59. |
| No. 11 | Oded Stark,
Yong Wang | Externalities, Human Capital Formation and Corrective
Migration Policy
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 1999, pp. 17. |

- | | | |
|--------|---|--|
| No. 12 | John Msuya | Nutrition Improvement Projects in Tanzania: Appropriate Choice of Institutions Matters
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 1999, pp. 36. |
| No. 13 | Liu Junhai | Legal Reforms in China
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 1999, pp. 90. |
| No. 14 | Lukas Menkhoff | Bad Banking in Thailand? An Empirical Analysis of Macro Indicators
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 1999, pp. 38. |
| No. 15 | Kaushalesh Lal | Information Technology and Exports: A Case Study of Indian Garments Manufacturing Enterprises
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 1999, pp. 24. |
| No. 16 | Detlef Virchow | Spending on Conservation of Plant Genetic Resources for Food and Agriculture: How much and how efficient?
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 1999, pp. 37. |
| No. 17 | Arnulf Heuermann | Die Bedeutung von Telekommunikationsdiensten für wirtschaftliches Wachstum
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 1999, pp. 33. |
| No. 18 | Ulrike Grote,
Arnab Basu,
Nancy Chau | The International Debate and Economic Consequences of Eco-Labeling
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 1999, pp. 37. |
| No. 19 | Manfred Zeller | Towards Enhancing the Role of Microfinance for Safety Nets of the Poor
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 1999, pp. 30. |
| No. 20 | Ajay Mahal,
Vivek Srivastava,
Deepak Sanan | Decentralization and Public Sector Delivery of Health and Education Services: The Indian Experience
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2000, pp. 77. |
| No. 21 | M. Andreini,
N. van de Giesen,
A. van Edig,
M. Fosu,
W. Andah | Volta Basin Water Balance
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2000, pp. 29. |
| No. 22 | Susanna Wolf,
Dominik Spoden | Allocation of EU Aid towards ACP-Countries
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2000, pp. 59. |

- | | | |
|--------|---|--|
| No. 23 | Uta Schultze | Insights from Physics into Development Processes: Are Fat Tails Interesting for Development Research?
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2000, pp. 21. |
| No. 24 | Joachim von Braun,
Ulrike Grote,
Johannes Jütting | Zukunft der Entwicklungszusammenarbeit
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2000, pp. 25. |
| No. 25 | Oded Stark,
You Qiang Wang | A Theory of Migration as a Response to Relative Deprivation
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2000, pp. 16. |
| No. 26 | Doris Wiesmann,
Joachim von Braun,
Torsten Feldbrügge | An International Nutrition Index – Successes and Failures in Addressing Hunger and Malnutrition
Zentrum für Entwicklungsforschung (ZEF), Bonn,
April 2000, pp. 56. |
| No. 27 | Maximo Torero | The Access and Welfare Impacts of Telecommunications Technology in Peru
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 2000, pp. 30. |
| No. 28 | Thomas Hartmann-Wendels
Lukas Menkhoff | Could Tighter Prudential Regulation Have Saved Thailand's Banks?
Zentrum für Entwicklungsforschung (ZEF), Bonn,
July 2000, pp. 40. |
| No. 29 | Mahendra Dev | Economic Liberalisation and Employment in South Asia
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 2000, pp. 82. |
| No. 30 | Noha El-Mikawy,
Amr Hashem,
Maye Kassem,
Ali El-Sawi,
Abdel Hafez El-Sawy,
Mohamed Showman | Institutional Reform of Economic Legislation in Egypt
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 2000, pp. 72. |
| No. 31 | Kakoli Roy,
Susanne Ziemek | On the Economics of Volunteering
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 2000, pp. 47. |
| No. 32 | Assefa Admassie | The Incidence of Child Labour in Africa with Empirical Evidence from Rural Ethiopia
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2000, pp. 61. |
| No. 33 | Jagdish C. Katyal,
Paul L.G. Vlek | Desertification - Concept, Causes and Amelioration
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2000, pp. 65. |

- | | | |
|--------|---|---|
| No. 34 | Oded Stark | On a Variation in the Economic Performance of Migrants by their Home Country's Wage
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2000, pp. 10. |
| No. 35 | Ramón Lopéz | Growth, Poverty and Asset Allocation: The Role of the State
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2001, pp. 35. |
| No. 36 | Kazuki Taketoshi | Environmental Pollution and Policies in China's Township and Village Industrial Enterprises
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2001, pp. 37. |
| No. 37 | Noel Gaston,
Douglas Nelson | Multinational Location Decisions and the Impact on Labour Markets
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 2001, pp. 26. |
| No. 38 | Claudia Ringler | Optimal Water Allocation in the Mekong River Basin
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 2001, pp. 50. |
| No. 39 | Ulrike Grote,
Stefanie Kirchhoff | Environmental and Food Safety Standards in the Context of Trade Liberalization: Issues and Options
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 2001, pp. 43. |
| No. 40 | Renate Schubert,
Simon Dietz | Environmental Kuznets Curve, Biodiversity and Sustainability
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2001, pp. 30. |
| No. 41 | Stefanie Kirchhoff,
Ana Maria Ibañez | Displacement due to Violence in Colombia: Determinants and Consequences at the Household Level
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2001, pp. 45. |
| No. 42 | Francis Matambalya,
Susanna Wolf | The Role of ICT for the Performance of SMEs in East Africa – Empirical Evidence from Kenya and Tanzania
Zentrum für Entwicklungsforschung (ZEF), Bonn,
December 2001, pp. 30. |
| No. 43 | Oded Stark,
Ita Falk | Dynasties and Destiny: On the Roles of Altruism and Impatience in the Evolution of Consumption and Bequests
Zentrum für Entwicklungsforschung (ZEF), Bonn,
December 2001, pp. 20. |
| No. 44 | Assefa Admassie | Allocation of Children's Time Endowment between Schooling and Work in Rural Ethiopia
Zentrum für Entwicklungsforschung (ZEF), Bonn,
February 2002, pp. 75. |

- | | | |
|--------|---|--|
| No. 45 | Andreas Wimmer,
Conrad Schetter | Staatsbildung zuerst. Empfehlungen zum Wiederaufbau und zur Befriedung Afghanistans. (German Version)
State-Formation First. Recommendations for Reconstruction and Peace-Making in Afghanistan. (English Version)
Zentrum für Entwicklungsforschung (ZEF), Bonn,
April 2002, pp. 27. |
| No. 46 | Torsten Feldbrügge,
Joachim von Braun | Is the World Becoming A More Risky Place?
- Trends in Disasters and Vulnerability to Them –
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 2002, pp. 42 |
| No. 47 | Joachim von Braun,
Peter Wobst,
Ulrike Grote | “Development Box” and Special and Differential Treatment for Food Security of Developing Countries:
Potentials, Limitations and Implementation Issues
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 2002, pp. 28 |
| No. 48 | Shyamal Chowdhury | Attaining Universal Access: Public-Private Partnership and Business-NGO Partnership
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 2002, pp. 37 |
| No. 49 | L. Adele Jinadu | Ethnic Conflict & Federalism in Nigeria
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 2002, pp. 45 |
| No. 50 | Oded Stark,
Yong Wang | Overlapping
Zentrum für Entwicklungsforschung (ZEF), Bonn,
August 2002, pp. 17 |
| No. 51 | Roukayatou Zimmermann,
Matin Qaim | Projecting the Benefits of Golden Rice in the Philippines
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 2002, pp. 33 |
| No. 52 | Gautam Hazarika,
Arjun S. Bedi | Schooling Costs and Child Labour in Rural Pakistan
Zentrum für Entwicklungsforschung (ZEF), Bonn
October 2002, pp. 34 |
| No. 53 | Margit Bussmann,
Indra de Soysa,
John R. Oneal | The Effect of Foreign Investment on Economic Development and Income Inequality
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2002, pp. 35 |
| No. 54 | Maximo Torero,
Shyamal K. Chowdhury,
Virgilio Galdo | Willingness to Pay for the Rural Telephone Service in Bangladesh and Peru
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2002, pp. 39 |
| No. 55 | Hans-Dieter Evers,
Thomas Menkhoff | Selling Expert Knowledge: The Role of Consultants in Singapore’s New Economy
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2002, pp. 29 |

- | | | |
|--------|--|---|
| No. 56 | Qiuxia Zhu
Stefanie Elbern | Economic Institutional Evolution and Further Needs for Adjustments: Township Village Enterprises in China
Zentrum für Entwicklungsforschung (ZEF), Bonn,
November 2002, pp. 41 |
| No. 57 | Ana Devic | Prospects of Multicultural Regionalism As a Democratic Barrier Against Ethnonationalism: The Case of Vojvodina, Serbia's "Multiethnic Haven"
Zentrum für Entwicklungsforschung (ZEF), Bonn,
December 2002, pp. 29 |
| No. 58 | Heidi Wittmer
Thomas Berger | Clean Development Mechanism: Neue Potenziale für regenerative Energien? Möglichkeiten und Grenzen einer verstärkten Nutzung von Bioenergieträgern in Entwicklungsländern
Zentrum für Entwicklungsforschung (ZEF), Bonn,
December 2002, pp. 81 |
| No. 59 | Oded Stark | Cooperation and Wealth
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2003, pp. 13 |
| No. 60 | Rick Auty | Towards a Resource-Driven Model of Governance: Application to Lower-Income Transition Economies
Zentrum für Entwicklungsforschung (ZEF), Bonn,
February 2003, pp. 24 |
| No. 61 | Andreas Wimmer
Indra de Soysa
Christian Wagner | Political Science Tools for Assessing Feasibility and Sustainability of Reforms
Zentrum für Entwicklungsforschung (ZEF), Bonn,
February 2003, pp. 34 |
| No. 62 | Peter Wehrheim
Doris Wiesmann | Food Security in Transition Countries: Conceptual Issues and Cross-Country Analyses
Zentrum für Entwicklungsforschung (ZEF), Bonn,
February 2003, pp. 45 |
| No. 63 | Rajeev Ahuja
Johannes Jütting | Design of Incentives in Community Based Health Insurance Schemes
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2003, pp. 27 |
| No. 64 | Sudip Mitra
Reiner Wassmann
Paul L.G. Vlek | Global Inventory of Wetlands and their Role in the Carbon Cycle
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2003, pp. 44 |
| No. 65 | Simon Reich | Power, Institutions and Moral Entrepreneurs
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2003, pp. 46 |
| No. 66 | Lukas Menkhoff
Chodechai Suwanaporn | The Rationale of Bank Lending in Pre-Crisis Thailand
Zentrum für Entwicklungsforschung (ZEF), Bonn,
April 2003, pp. 37 |

- | | | |
|--------|---|---|
| No. 67 | Ross E. Burkhardt
Indra de Soysa | Open Borders, Open Regimes? Testing Causal Direction between Globalization and Democracy, 1970-2000
Zentrum für Entwicklungsforschung (ZEF), Bonn,
April 2003, pp. 24 |
| No. 68 | Arnab K. Basu
Nancy H. Chau
Ulrike Grote | On Export Rivalry and the Greening of Agriculture – The Role of Eco-labels
Zentrum für Entwicklungsforschung (ZEF), Bonn,
April 2003, pp. 38 |
| No. 69 | Gerd R. Rücker
Soojin Park
Henry Ssali
John Pender | Strategic Targeting of Development Policies to a Complex Region: A GIS-Based Stratification Applied to Uganda
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 2003, pp. 41 |
| No. 70 | Susanna Wolf | Private Sector Development and Competitiveness in Ghana
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 2003, pp. 29 |
| No. 71 | Oded Stark | Rethinking the Brain Drain
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 2003, pp. 17 |
| No. 72 | Andreas Wimmer | Democracy and Ethno-Religious Conflict in Iraq
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 2003, pp. 17 |
| No. 73 | Oded Stark | Tales of Migration without Wage Differentials: Individual, Family, and Community Contexts
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 2003, pp. 15 |
| No. 74 | Holger Seebens
Peter Wobst | The Impact of Increased School Enrollment on Economic Growth in Tanzania
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2003, pp. 25 |
| No. 75 | Benedikt Korf | Ethnicized Entitlements? Property Rights and Civil War in Sri Lanka
Zentrum für Entwicklungsforschung (ZEF), Bonn,
November 2003, pp. 26 |
| No. 76 | Wolfgang Werner | Toasted Forests – Evergreen Rain Forests of Tropical Asia under Drought Stress
Zentrum für Entwicklungsforschung (ZEF), Bonn,
December 2003, pp. 46 |
| No. 77 | Appukuttannair
Damodaran
Stefanie Engel | Joint Forest Management in India: Assessment of Performance and Evaluation of Impacts
Zentrum für Entwicklungsforschung (ZEF), Bonn,
October 2003, pp. 44 |

- | | | |
|--------|---|---|
| No. 78 | Eric T. Craswell
Ulrike Grote
Julio Henao
Paul L.G. Vlek | Nutrient Flows in Agricultural Production and International Trade: Ecology and Policy Issues
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2004, pp. 62 |
| No. 79 | Richard Pomfret | Resource Abundance, Governance and Economic Performance in Turkmenistan and Uzbekistan
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2004, pp. 20 |
| No. 80 | Anil Markandya | Gains of Regional Cooperation: Environmental Problems and Solutions
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2004, pp. 24 |
| No. 81 | Akram Esanov,
Martin Raiser,
Willem Buiter | Gains of Nature's Blessing or Nature's Curse: The Political Economy of Transition in Resource-Based Economies
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2004, pp. 22 |
| No. 82 | John M. Msuya
Johannes P. Jütting
Abay Asfaw | Impacts of Community Health Insurance Schemes on Health Care Provision in Rural Tanzania
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2004, pp. 26 |
| No. 83 | Bernardina Algieri | The Effects of the Dutch Disease in Russia
Zentrum für Entwicklungsforschung (ZEF), Bonn,
January 2004, pp. 41 |
| No. 84 | Oded Stark | On the Economics of Refugee Flows
Zentrum für Entwicklungsforschung (ZEF), Bonn,
February 2004, pp. 8 |
| No. 85 | Shyamal K. Chowdhury | Do Democracy and Press Freedom Reduce Corruption? Evidence from a Cross Country Study
Zentrum für Entwicklungsforschung (ZEF), Bonn,
March 2004, pp. 33 |
| No. 86 | Qiuxia Zhu | The Impact of Rural Enterprises on Household Savings in China
Zentrum für Entwicklungsforschung (ZEF), Bonn,
May 2004, pp. 51 |
| No. 87 | Abay Asfaw
Klaus Froberg
K.S.James
Johannes Jütting | Modeling the Impact of Fiscal Decentralization on Health Outcomes: Empirical Evidence from India
Zentrum für Entwicklungsforschung (ZEF), Bonn,
June 2004, pp. 29 |

- | | | |
|--------|--|--|
| No. 88 | Maja B. Micevska
Arnab K. Hazra | The Problem of Court Congestion: Evidence from
Indian Lower Courts
Zentrum für Entwicklungsforschung (ZEF), Bonn,
July 2004, pp. 31 |
| No. 89 | Donald Cox
Oded Stark | On the Demand for Grandchildren: Tied Transfers and
the Demonstration Effect
Zentrum für Entwicklungsforschung (ZEF), Bonn,
September 2004, pp. 44 |
| No. 90 | Stefanie Engel
Ramón López | Exploiting Common Resources with Capital-Intensive
Technologies: The Role of External Forces
Zentrum für Entwicklungsforschung (ZEF), Bonn,
November 2004, pp. 32 |
| No. 91 | Hartmut Ihne | Heuristic Considerations on the Typology of Groups and
Minorities
Zentrum für Entwicklungsforschung (ZEF), Bonn,
December 2004, pp. 24 |
| No. 92 | Johannes Sauer
Klaus Froberg
Heinrich Hockmann | Black-Box Frontiers and Implications for Development
Policy – Theoretical Considerations
Zentrum für Entwicklungsforschung (ZEF), Bonn,
December 2004, pp. 38 |
| No. 93 | Hoa Nguyen
Ulrike Grote | Agricultural Policies in Vietnam: Producer Support
Estimates, 1986-2002
ZEF-Discussion Papers on Development Policy No. 93, Center for
Development Research (ZEF), Bonn, December 2004 |
| No. 94 | Oded Stark
You Qiang Wang | Towards a Theory of Self- Segregation as a Response to
Relative Deprivation: Steady-State Outcomes and Social
Welfare
ZEF-Discussion Papers on Development Policy No. 94, Center for
Development Research (ZEF), Bonn, December 2004 |

ISSN: 1436-9931

The papers can be ordered free of charge from:

Zentrum für Entwicklungsforschung (ZEF)
Center for Development Research
Walter-Flex-Str. 3
D – 53113 Bonn, Germany

Phone: +49-228-73-1861
Fax: +49-228-73-1869
E-Mail: zef@uni-bonn.de
<http://www.zef.de>