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Work effort, moderation in expulsion, and illegal migration

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Oded Stark

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Work Effort, Moderation in Expulsion, and Illegal Migration

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Contents

Acknowledgements
Abstract 1
Kurzfassung 2
1 The General Argument 3
2 Detailed Reasoning 4
3 Concluding Remarks 9
References 11
Acknowledgements

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Abstract

Illegal migrants supply a valuable productive input: effort. But their status as illegals means that these migrants face a strictly positive probability of expulsion. A return to their country of origin entails reduced earnings when the wage at origin is lower than the wage at destination. This prospect induces illegal migrants to exert more work effort than comparable workers who face no such prospect. The lower the probable, alternative earnings, the harsher the penalty that illegal migrants will be subjected to upon their return, for a given probability of expulsion, and the higher the level of effort they will exert at destination. While the home-country wage that awaits the illegal migrants upon their return is exogenous to the host country, the probability of their return is not. Given the home-country wage, a higher probability of expulsion will induce illegal migrants to supply more effort. Hence, different combinations of probabilities of expulsion and home-country wages yield the same level of effort. Thus, variation in the extent to which receiving countries undertake measures aimed at apprehending and expelling illegal migrants can be attributed not to characteristics of the illegal migrants themselves but to a feature that pertains to the illegal migrants’ country of origin.
Kurzfassung

1 The General Argument

Countries differ in the extent to which they are lenient or harsh toward the illegal migrants in their midst, and particular countries appear to treat such migrants differently at different times. Most of the countries of southern Europe, whose illegal migrants come largely from North Africa where wages are very low, have been much more lenient than the countries of northern Europe whose illegal migrants have often come largely from southern Europe where wages are not so low. Illegal migrants in Israel have lately been treated very harshly - a special government authority was set up to interdict and expel illegal migrants - a policy shift that closely follows a compositional change in the population of illegal migrants from workers coming largely from the West Bank and Gaza Strip to workers who increasingly originate from eastern Europe. While there could be cultural, sociological, or political reasons for this diversity, there may be an economic explanation for the apparent variation in the degree of moderation in expulsion policy, henceforth referred to as the “tolerance” accorded to illegal migrants.

Illegal migrants supply a valuable productive input: effort. But their status as illegals means that they face a strictly positive probability of expulsion. A return to their country of origin entails reduced earnings for them when the wage at origin is lower than the wage at destination. This prospect induces illegal migrants to exert more effort than comparable workers who face no such prospect. The lower the probable alternative home-country earnings, the harsher the penalty for illegal migrants on their return - for a given probability of expulsion - and the harder they will work at destination. While the home-country wage that awaits the illegal migrants upon their return is exogenous to the host country, the probability of their return is not. Given the home-country wage, a higher probability of expulsion will induce illegal migrants to apply more effort. Hence, different combinations of probabilities of expulsion and home-country wages yield the same level of effort. In particular, a high home-country wage combined with a high probability of return will elicit the same level of effort as will a low home-country wage combined with a low probability of return.

Similarly, a change in the composition of the group of illegal migrants by country of origin, or a change in the wage rate in a given country of origin, will induce a corresponding shift in enforcement policy in the receiving country. Thus, variation in the extent to which receiving countries undertake measures aimed at apprehending and expelling illegal migrants can be attributed not to characteristics of the illegal migrants themselves, but to a feature of the illegal migrants’ countries of origin.
2 Detailed Reasoning

An advantage associated with the “admission” of illegal migrants is that they supply more effort for a given destination wage than legal migrants (Proposition 1 below). The reason for the differential supply response is that while by definition legal migrants have permission to stay, illegal migrants face a strictly positive probability of expulsion, and consequently a strictly positive probability of losing the high wages that they enjoy at present. Even if the probability that legal migrants will be asked or be compelled to leave is not zero, this probability is likely to be lower than the corresponding probability for illegal migrants. (When the downswing of a business cycle hits hard, legal migrants are often induced, requested, or even pressured to return to their home country. Similarly, social pressures by an alienated indigenous population can compel return migration.) Given a strictly positive probability of expulsion, a lower wage at origin will elicit greater effort at destination (Proposition 2 below). The reason for this relationship is that since a lower home-country wage inflicts a harsher penalty upon expulsion, the response aimed at mitigating the adverse outcome is stronger.

Let \( W_F \) be the wage rate at the destination country, and let \( W_H \) be the wage rate at the home country, such that \( W_F > W_H \). Let \( e \) be the level of work effort, henceforth effort, exerted by illegal migrants at destination, and let \(-U(e)\) be the twice differentiable disutility of effort, measured in money terms, such that the marginal utility from exerting effort is positive and rising: \( \frac{\partial U}{\partial e} > 0; \frac{\partial^2 U}{\partial e^2} > 0 \). Let \( t \) be a measure of the tolerance of the government of the country of destination toward the illegal migrants in the country, and let \( P(e,t) \) be the twice differentiable probability of not being expelled, such that the first order effects of \( e \) and \( t \) on \( P \) are positive, and the second order effects are negative, namely the impact of effort exertion on the probability of not being expelled is positive\(^1\), \( \frac{\partial P}{\partial e} > 0 \), and declining, \( \frac{\partial^2 P}{\partial e^2} < 0 \); the impact of the level of tolerance on the probability of not being expelled is positive, \( \frac{\partial P}{\partial t} > 0 \), and declining \( \frac{\partial^2 P}{\partial t^2} < 0 \); and, since the impact of both the degree of effort exertion and the level of tolerance on the probability of not being expelled is positive, the effect of an increase in the level of tolerance on the impact that effort bears on the probability of not being expelled is assumed to attenuate

\(^1\) Illegal migrants who work diligently and hard (say put in more hours a day) are less likely to be fired, be unemployed, be lured into unproductive activities, get into trouble with the law, or constitute a burden to the society that hosts them.
this impact, \( \frac{\partial^2 P}{\partial e^2} < 0 \). For simplicity’s sake, let the level of effort exerted by the illegal migrant at the home country be normalized at zero.

The illegal migrant seeks to maximize his net earnings, that is, his expected wage minus the cost (disutility) of effort. The net earnings per illegal migrant function associated with effort level \( e \) is thus

\[
V(e) = P(e, t)W_F + \left[1 - P(e, t)\right]W_H - U(e).
\]

(1)

Equation (1) can be rewritten as

\[
V(e) - W_H = P(e, t)(W_F - W_H) - U(e)
\]

(1’)

where the left-hand side of (1’) is the net gain to the illegal migrant from working in the destination country. Without loss of generality, we assume that \( V(e) - W_H \geq 0 \).

The decision problem of the illegal migrant is how much effort to exert. In this setting, since

\[
\frac{\partial V(e)}{\partial e} = \frac{\partial P}{\partial e}(W_F - W_H) - \frac{\partial U}{\partial e},
\]

the illegal migrant’s chosen level of effort \( e^*(t, W_H, W_F) \), is implicitly given by

\[
\frac{\partial P}{\partial e}(W_F - W_H) - \frac{\partial U}{\partial e} = 0.
\]

(2)

Proposition 1. Illegal migrants supply more effort for a given destination wage rate than legal migrants.\(^3\)

\(^2\) From the properties \( \frac{\partial^2 P}{\partial e^2} < 0 \) and \( \frac{\partial^2 U}{\partial e^2} > 0 \) it follows that the second-order condition for a maximum, \( \frac{\partial^2 V(e)}{\partial e^2} = \frac{\partial^2 P}{\partial e^2}(W_F - W_H) - \frac{\partial^2 U}{\partial e^2} < 0 \), holds.

\(^3\) Clearly, if all the migrants are to be treated equally and if the migrants’ continued stay in the country of destination is independent of their effort, then all the migrants will exert the same effort and their home-country wage will play no role in determining their effort.
Proof. Legal migrants can be characterized by a large $t$, while illegal migrants can be characterized by a small $t$. Since from (2),

$$\left( \frac{\partial^2 P}{\partial e^2} de^* + \frac{\partial^2 P}{\partial e \partial t} dt \right)(W_F - W_H) = \frac{\partial^2 U}{\partial e^2} de^*, $$

we have that

$$\frac{de^*}{dt} = -\frac{\partial^2 P}{\partial e \partial t} (W_F - W_H) < 0. $$

Hence the proposition follows. \qed

Proposition 2. Given a strictly positive probability of expulsion, a lower wage rate at origin elicits a larger effort at destination.

Proof. Since from (2),

$$\frac{\partial^2 P}{\partial e^2} (W_F - W_H) de^* - \frac{\partial P}{\partial e} dW_H = \frac{\partial^2 U}{\partial e^2} de^*, $$

we have that

$$\frac{de^*}{dW_H} = \frac{\frac{\partial P}{\partial e}}{\frac{\partial^2 P}{\partial e^2} (W_F - W_H) - \frac{\partial^2 U}{\partial e^2}} < 0. $$

Hence the proposition follows. \qed

Corollary. The same level of effort by illegal migrants will be elicited by a combination of a low wage at origin and a low probability of expulsion as by a high wage at origin and a high probability of expulsion.

Apprehending and expelling illegal migrants is costly. While (ordinarily) the government of the host country cannot affect the wage rate that prevails in the illegal migrants’ home country, it can, at least to some extent, choose the level of resources it allocates to interdiction. From the perspective of the host-country government, the sanction of expulsion is an effective but not costless policy tool to procure a desirable degree of effort. Since expulsion lowers earnings, illegal migrants seek to dampen the probability of their expulsion by exerting more
effort. Yet maintaining any positive level of the probability of expulsion requires outlays on apprehension and deportation. Suppose that the balance of benefits and costs associated with the “production” of expulsion probability \( 1 - P(e, t) \) yields an optimal level of effort (from the perspective of the government of the host country), \( \tilde{e} \), for a given home-country wage \( \tilde{W}_H \).

From the Corollary it follows that a destination country that is anxious to encourage the efforts of its illegal migrants can “buy off” the desirable effort \( \tilde{e} \) more cheaply when the illegal migrants’ home-country wage is lower than \( \tilde{W}_H \).

To see how the optimal outlay on apprehension and deportation of illegal migrants rises in tandem with the illegal migrants’ home-country wage or, put differently, how a lower home-country wage enables the host country to economize on the optimal cost of interdiction as a device for eliciting desirable effort, consider the following framework.

The host country and the illegal migrant play a Stackelberg game in which the host country is the leader while the illegal migrant is the follower. In the first step of the game, the host country sets and announces the tolerance level \( t \). In the second step, the illegal migrant chooses the effort level \( e \). The host country finds the optimal tolerance level by backward induction. If the host country sets a “target” level \( \tilde{e} \), then the corresponding tolerance level \( \tilde{t} \) is the solution to the equation \( e = e^*(\tilde{t}, \tilde{W}_H, W_F) \). Specifically, let \( C(t) \) be the cost of migration law enforcement per illegal migrant in the host country at the tolerance level \( t \), \( \frac{\partial C}{\partial t} < 0 \). The host country’s economy benefits from the illegal migrant’s exertion of effort, \( e \). Let the benefit be \( B(e) \) with \( \frac{\partial B}{\partial e} > 0 \). Thus, the host country will have a net benefit (economic rent) of \( B(e) - C(t) \) per illegal migrant in terms of its GDP. For simplicity, let us assume that the host country maximizes the surplus \( B(e) - C(t) \). The first-order condition is

\[
\frac{\partial B(e)}{\partial e} \frac{\partial e^*}{\partial t} = \frac{\partial C}{\partial t}.
\]

Solving (3) yields the host country’s optimal tolerance level \( \tilde{t} \); and then at \( \tilde{t} \), the illegal migrant’s optimal level of effort \( \tilde{e} = e^*(\tilde{t}, \tilde{W}_H, W_F) \) for a given home-country wage \( \tilde{W}_H \). With a higher \( \tilde{W}_H \), \( \tilde{t} \) has to fall to elicit the same level of effort \( \tilde{e} = e^*(\tilde{t}, \tilde{W}_H, W_F) \), that is,

\[
\frac{\partial \tilde{t}}{\partial \tilde{W}_H} \bigg|_{\tilde{e}=0} < 0.
\]

Hence we have that 

\[
\frac{\partial C(\tilde{t})}{\partial \tilde{W}_H} \bigg|_{\tilde{e}=0} > 0.
\]

This consideration suggests that a country that hosts illegal migrants from poorer countries will be more tolerant of illegal migration than a country whose illegal migrants originate from countries that are less poor. An apparent warm compassion could be the outcome
of cool consideration. Likewise, a country that seeks to elicit a particular level of effort from its labor force of illegal migrants and that faces a rise in the share of migrants from poorer countries, can relax its apprehension and deportation policy. While this approach gives the appearance of benevolent tolerance, the underlying reason for the policy shift is a recognition that it is possible to procure toil more cheaply.

This result relates to the interesting issue of the role and prevalence - or absence - of altruism as a motive in human and economic affairs. Let us refer to illegal migrants who originate from a country in which the wage rate is relatively low as poor, and to illegal migrants who originate from a country with a relatively high wage rate as less poor. A straightforward implication of altruistic inclinations is to accord the poor a more generous treatment than the less poor. The inference from conduct to motive suggests that altruism is at work when a country with poor illegal migrants is more lenient toward the illegal migrants than a country with less poor illegal migrants. The reason provided in this paper for the differential treatment of the poor and the less poor implies that inferring from consequence to reason requires caution; seemingly altruistic acts can emanate from pure self (country) interest.
3 Concluding Remarks

By and large, wage rates have featured in migration research in one of two ways: explaining migration, and explaining labour market outcomes. The explanatory variable of migration that has been studied most closely is the wage differential. There has also been considerable interest in the wages that migrants earn. Presumably this interest has arisen because these wages are seen as a measure of migrants’ relative and absolute success and as determinants of their consumption (savings), their remittances, and their capacity to self-finance human capital investments. Correspondingly the productive characteristics of migrants as determinants of their wage earnings were studied closely. A related interest has been the effect of the arrival of migrants on the wage earnings of native-born workers. Recently attention has been drawn to the wages that migrants do not earn as determinants of migrants’ performance. This line of work is prompted by the idea that although the economic performance of migrants in the host country undoubtedly depends on qualifications, it is also affected by inclinations. Given the probability of return migration, a behavioral link has been established between the incentive of migrants to save in their country of destination and the prevailing wage rate in their home country such that migrants coming from a low-wage country have been shown to optimally save more than migrants from a high-wage country (Stark, 2002). It has further been shown that the relationship between the home-country’s wage and the optimal level of savings at destination can shed fresh light on the intertemporal variation in the economic performance of successive cohorts of migrants from a given country of origin. Much of the interesting literature, eloquently reviewed by Lalonde and Topel (1997), on the convergence of the earnings of migrants and those of the native-born views the observed pattern as an artifact; the pattern arises not from an upgrading of the skills of a given cohort of migrants but from a change in the unobserved skills of successive cohorts of migrants. Suppose that cohort \( k+1 \) is drawn from a section of the home-country distribution of unobserved skills that is to the left of the section from which cohort \( k \) is drawn. If skills, productivity, and earnings correlate positively, the cohort \( k \) migrants will outperform the cohort \( k+1 \) migrants, giving rise to the false impression that the performance of migrants improves over time spent at destination. The finding that a lower wage at origin prompts higher savings at destination suggests a new explanation of the observed pattern. Presumably, in time, the home-country’s wage rises. The finding implies that the incentive facing the cohort \( k+1 \) migrants differs from the incentive that the cohort \( k \) migrants had faced, such that the optimal savings and thereby the mean income of the cohort \( k+1 \) migrants are lower than those of the cohort \( k \) migrants. The variation in the economic performance of migrants may thus be explained by neither skills nor assimilation but rather by incentives.

The present paper continues this line of research. It shows how the wage at origin after migration, that is, the wage that migrants have given up but would earn if compelled to return,
affects behavior at destination, and how variation in this wage interacts with a variation in the
degree of tolerance accorded to illegal migrants by the host country. The complete story of how
pre-migration wages impinge on post-migration preferences, choices, and outcomes is yet to be
written.
References


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<thead>
<tr>
<th>No.</th>
<th>Authors</th>
<th>Title</th>
<th>Institute</th>
<th>Date</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
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<td>47</td>
<td></td>
</tr>
<tr>
<td>2</td>
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<td>66</td>
<td></td>
</tr>
<tr>
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<td>24</td>
<td></td>
</tr>
<tr>
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<td>50</td>
<td></td>
</tr>
<tr>
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<td>62</td>
<td></td>
</tr>
<tr>
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<td>57</td>
<td></td>
</tr>
<tr>
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<td>Arjun Bedi</td>
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<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, May 1999</td>
<td>42</td>
<td></td>
</tr>
<tr>
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<td>47</td>
<td></td>
</tr>
<tr>
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<td>44</td>
<td></td>
</tr>
<tr>
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<td>59</td>
<td></td>
</tr>
<tr>
<td>11</td>
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<td>17</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Author(s)</td>
<td>Title</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, Date, Pages</td>
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<td></td>
</tr>
<tr>
<td>17</td>
<td>Arnulf Heuermann</td>
<td>Die Bedeutung von Telekommunikationsdiensten für wirtschaftliches Wachstum</td>
<td>September 1999, pp. 33.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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| No. 56 | Qiuxia Zhu  
|        | Stefanie Elbern  
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|        | Zentrum für Entwicklungsforschung (ZEF), Bonn, November 2002, pp. 41  
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|        | Zentrum für Entwicklungsforschung (ZEF), Bonn, December 2002, pp. 29  
| No. 58 | Heidi Wittmer  
|        | Thomas Berger  
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|        | 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. Burkhart
Indra de Soysa
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
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ecology and Policy Issues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 62</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>Resource Abundance, Governance and Economic Performance in Turkmenistan</td>
<td>Richard Pomfret</td>
</tr>
<tr>
<td></td>
<td>and Uzbekistan</td>
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<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 20</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Gains of Regional Cooperation: Environmental Problems and Solutions</td>
<td>Anil Markandya</td>
</tr>
<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 24</td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>Gains of Nature's Blessing or Nature's Curse: The Political Economy</td>
<td>Akram Esanov, Martin Raiser, Willem Buiter</td>
</tr>
<tr>
<td></td>
<td>of Transition in Resource-Based Economies</td>
<td></td>
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<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 22</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>Impacts of Community Health Insurance Schemes on Health Care</td>
<td>John M. Msuya, Johannes P. Jütting, Abay Asfaw</td>
</tr>
<tr>
<td></td>
<td>Provision in Rural Tanzania</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 26</td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>The Effects of the Dutch Disease in Russia</td>
<td>Bernardina Algieri</td>
</tr>
<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 41</td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>On the Economics of Refugee Flows</td>
<td>Oded Stark</td>
</tr>
<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, February 2004, pp. 8</td>
<td></td>
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<tr>
<td></td>
<td>Cross Country Study</td>
<td></td>
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<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, March 2004, pp. 33</td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>The Impact of Rural Enterprises on Household Savings in China</td>
<td>Qiuxia Zhu</td>
</tr>
<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, May 2004, pp. 51</td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>Modeling the Impact of Fiscal Decentralization on Health Outcomes:</td>
<td>Abay Asfaw, Klaus Frohberg, K.S. James, Johannes Jütting</td>
</tr>
<tr>
<td></td>
<td>Empirical Evidence from India</td>
<td></td>
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<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, June 2004, pp. 29</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>The Problem of Court Congestion: Evidence from Indian Lower Courts</td>
<td>Maja B. Micevska, Arnab K. Hazra</td>
</tr>
<tr>
<td></td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, July 2004, pp. 31</td>
<td></td>
</tr>
</tbody>
</table>
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 Frohberg  
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  
Zentrum für Entwicklungsforschung (ZEF), Bonn, December 2004, pp. 79

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  
Zentrum für Entwicklungsforschung (ZEF), Bonn, December 2004, pp. 25

No. 95  Oded Stark  
Status Aspirations, Wealth Inequality, and Economic Growth  
Zentrum für Entwicklungsforschung (ZEF), Bonn, February 2005, pp. 9

No. 96  John K. Mduma  
Peter Wobst  
Village Level Labor Market Development in Tanzania: Evidence from Spatial Econometrics  
Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2005, pp. 42

No. 97  Ramon Lopez  
Edward B. Barbier  
Debt and Growth  
Zentrum für Entwicklungsforschung (ZEF), Bonn, March 2005, pp. 30

No. 98  Hardwick Tchale  
Johannes Sauer  
Peter Wobst  
Impact of Alternative Soil Fertility Management Options on Maize Productivity in Malawi’s Smallholder Farming System  
Zentrum für Entwicklungsforschung (ZEF), Bonn, August 2005, pp. 29
<table>
<thead>
<tr>
<th>No.</th>
<th>Authors</th>
<th>Title</th>
<th>Zentrum für Entwicklungsforschung (ZEF), Bonn</th>
<th>Publication Date</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Jumanne Abdallah, Johannes Sauer</td>
<td>Efficiency and Biodiversity - Empirical Evidence from Tanzania</td>
<td>Bonn</td>
<td>November 2005</td>
<td>34</td>
</tr>
<tr>
<td>101</td>
<td>Tobias Debiel</td>
<td>Dealing with Fragile States - Entry Points and Approaches for Development Cooperation</td>
<td>Bonn</td>
<td>December 2005</td>
<td>38</td>
</tr>
<tr>
<td>102</td>
<td>Sayan Chakrabarty, Ulrike Grote, Guido Lüchters</td>
<td>The Trade-Off Between Child Labor and Schooling: Influence of Social Labeling NGOs in Nepal</td>
<td>Bonn</td>
<td>February 2006</td>
<td>35</td>
</tr>
<tr>
<td>103</td>
<td>Bhagirath Behera, Stefanie Engel</td>
<td>Who Forms Local Institutions? Levels of Household Participation in India's Joint Forest Management Program</td>
<td>Bonn</td>
<td>February 2006</td>
<td>37</td>
</tr>
<tr>
<td>104</td>
<td>Roukayatou Zimmermann, Faruk Ahmed</td>
<td>Rice Biotechnology and Its Potential to Combat Vitamin A Deficiency: A Case Study of Golden Rice in Bangladesh</td>
<td>Bonn</td>
<td>March 2006</td>
<td>31</td>
</tr>
<tr>
<td>105</td>
<td>Adama Konseiga</td>
<td>Household Migration Decisions as Survival Strategy: The Case of Burkina Faso</td>
<td>Bonn</td>
<td>April 2006</td>
<td>36</td>
</tr>
<tr>
<td>106</td>
<td>Ulrike Grote, Stefanie Engel, Benjamin Schraven</td>
<td>Migration due to the Tsunami in Sri Lanka – Analyzing Vulnerability and Migration at the Household Level</td>
<td>Bonn</td>
<td>April 2006</td>
<td>37</td>
</tr>
<tr>
<td>107</td>
<td>Stefan Blum</td>
<td>East Africa: Cycles of Violence, and the Paradox of Peace</td>
<td>Bonn</td>
<td>April 2006</td>
<td>42</td>
</tr>
</tbody>
</table>