Would a Flat Tax Stimulate Entrepreneurship in Germany?
A Behavioural Microsimulation Analysis Allowing for Risk
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Motivation
Evidence for positive spillover effects of entrepreneurial firms (Van Praag and Versloot, IZA 2007)
What is the impact of tax reforms on entrepreneurship?
Theoretically, progressive taxes...
...decrease net expected returns from self-employment
...decrease the variation of net incomes, and thus the risk associated with self-employment
Empirical evidence scarce (Schuetze and Bruce 2004)
Contribution:
Estimated structural models of entry and exit under risk are used for ex-ante evaluations of hypothetical tax reforms for Germany.

Methodological Overview
Estimation of $\mu_y$ and $\sigma_y^2$ for each individual and year in both self-employment and dependent employment
Mincer-type earnings regressions
Estimation of earnings variance
Controlling for selection
Calculation of net incomes (tax-benefit model STSM)
Calculation of lifetime annuities
Estimation of the structural models of entry into and exit out of self-employment.
Calculation of net incomes in alternative tax scenarios (STSM)
Prediction of transition rates in baseline and altern. scenarios
Effects of reforms are given by difference in predicted rates

Structural Transition Models
Individuals $i$ can choose between the two states self-employment ($s=1$) and dependent employment ($s=2$)
Utility function with constant relative risk aversion (CRRA):
$$U_i(y_i, x_i, d_i, c_i) = \frac{y_i^{1-\rho}}{1-\rho} + x_i'\beta + f(d_i) + c_i$$
Expected utility with respect to income $y$ (Taylor approx.):
$$E(U_i(y_i, x_i, d_i, c_i)) = \left[ \frac{\mu_y^{1-\rho}}{1-\rho} - \frac{1}{2}\sigma_y^2 \right] + x_i'\beta + f(d_i) + c_i$$
Probability that agent $i$ decides to be self-employed:
$$\text{Prob}(E(U_1) > E(U_2)) = F(\alpha V(y_1) - V(y_2)) + x_i'\beta + f(d_i)$$
Random utility model (McFadden 1974): Logit specification

Simulated Tax Reforms
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Basic Allowance (€)</th>
<th>Marginal Tax Rate* (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislation of 2005 (baseline scen.)</td>
<td>7,664</td>
<td>15 – 42</td>
</tr>
<tr>
<td>Repeal of Tax Reform 2000</td>
<td>6,902</td>
<td>22.9 – 51</td>
</tr>
<tr>
<td>Flat Tax LL</td>
<td>7,664</td>
<td>26.9</td>
</tr>
<tr>
<td>Flat Tax HH</td>
<td>10,700</td>
<td>31.9</td>
</tr>
</tbody>
</table>
* plus solidarity surcharge in all scenarios. The flat tax scenarios are revenue neutral.

Results
Estimated Hourly Earnings
Estimated Structural Parameters
<table>
<thead>
<tr>
<th>Structural Parameter</th>
<th>Estimated Value (Sd Error)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\rho$ (coeff. of RRA)</td>
<td>0.470 (0.114)</td>
</tr>
<tr>
<td>$\alpha$ (coeff. of risk adj. inc.)</td>
<td>0.174 (0.026)</td>
</tr>
</tbody>
</table>
N 16,390 1,555
All significant at 1% level.
Source: SOEP 2002-2006, author’s calc.

Predicted Transition Rates in 2005
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Transition Rate in %</th>
<th>Entry</th>
<th>Exit</th>
</tr>
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<tbody>
<tr>
<td>Baseline scen.</td>
<td>0.856*** 4.577***</td>
<td>0.856</td>
<td>4.577</td>
</tr>
</tbody>
</table>
| Repeal of Tax Reform 2000          | 0.877*** 4.265***    | -2.2% | -6.8%
| Relative change                     | +2.2%*** -6.8%       | -5.1% | +0.4%
| Flat Tax LL                        | 0.814*** 4.596***    | 0.814 | 4.596|
| Relative change                     | -5.1%*** +0.4%       | -2.5% | -1.2%
| Flat Tax HH                        | 0.836*** 4.521***    | 0.836 | 4.521|
| Relative change                     | -2.5%*** -1.2%       | ***   | ***

Conclusions
The tax reform 2000 made self-employment less attractive. A repeal would increase the entry rate into self-employment, and decrease the exit rate.
Flat tax policies would decrease the entry rate.
The flatter the tax, the less attractive is self-employment.
The decision to become and remain an entrepreneur is a trade-off between $\mu_y$ and $\sigma_y^2$.
The insurance effect of progressive taxes dominates behaviour in these scenarios.
Flat taxes do not seem to be suitable to stimulate entrepreneurship.