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## Does the shadow economy raise observed aggregate efficiency? A cross-country comparison

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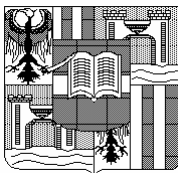
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**Does the shadow economy raise observed aggregate  
efficiency?**

**A cross-country comparison**

by

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# Does the shadow economy raise observed aggregate efficiency? A cross-country comparison

6 July 2006

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**Abstract:** We analyze how adding the shadow economy to official output figures affects technical efficiency. We find that this only slightly affects the ranking of efficiency scores, but increases average efficiency. Our results are robust to the functional form of the production technology and the adjustment of labor to account for years of schooling.

**Keywords:** shadow economy, income, aggregate productivity, efficiency.

**JEL Classification:** O11, O17, O47, O5.

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## 1. Introduction

Most studies of economic development rest on official output figures. However, in so doing they neglect a sizeable part of economic activity, which takes place in the informal sector and therefore goes unrecorded in official statistics. According to Schneider (2005), the “shadow economy”, defined as currently unregistered economic activities that contribute to the officially calculated (or observed) Gross National Product, amounted to 16 percent of official output in OECD countries, 39 percent in developing countries, and up to 40 percent in transition countries, in 2002/2003 (Schneider, 2005 p.599). Those daunting figures call into question the results of every empirical study ignoring this phenomenon. In particular, assessments of productivity at the aggregate country level, like e.g. Caselli (2005) or Kneller and Stevens (2003), are likely to be flawed when ignoring the shadow economy. This is particularly important for efficiency frontier methods such as stochastic frontier analysis (SFA), which estimates the world’s production frontier and assesses countries’ aggregate efficiency relative to that frontier (see e.g. Adkins et al., 2002, or Kneller and Stevens, 2003). Ignoring a substantial share of output is likely to result in biased estimates of the production frontier and a mis-measurement of inefficiencies. Most likely, efficiency is underestimated in countries with big shadow economies. The extent of the bias, however, is an empirical matter.

In what follows, we therefore check the robustness of the SFA to the inclusion of the shadow economy in official output figures. We follow Kneller and Stevens (2003) and estimate the world production frontier based on official output figures first. We then add the shadow output to gauge the bias of existing studies.

## 2. Empirical model and results

In order to estimate the production frontier, we need to specify its functional form. For sake of brevity, we only consider the most common production functions analyzed in the literature, the Cobb-Douglas and the translog functions. Those specifications respectively read:

$$\ln(Y_i) = \beta_0 + \beta_1 \ln(K_i) + \beta_2 \ln(L_i) + u_i + v_i \quad (1)$$

$$\ln(Y_i) = \beta_0 + \beta_1 \ln(K_i) + \beta_2 \ln(L_i) + \beta_3 \ln(K_i)^2 + \beta_4 \ln(L_i)^2 + \beta_5 \ln(K_i) \ln(L_i) + u_i + v_i \quad (2)$$

where  $Y_i$  measures country  $i$ 's output,  $K_i$  its capital stock, and  $L_i$  its labor force.  $u_i$  is white noise accounting for measurement errors or unpredictable events that make the frontier random.  $v_i$  is the efficiency term.

As test for robustness, we use two different measures of the labor force. First, we define  $L_i$  as the absolute number of workers. Second, following Kneller and Stevens (2003) and Caselli (2005), we replace it by a measure of human capital-adjusted labor supply  $L_i^* = H_i L_i$ , where  $H_i$  is the mean years of schooling of the labor force.

Table 1: description of untransformed variables

| Variable | Definition                          | Mean        | S.D.    |
|----------|-------------------------------------|-------------|---------|
| $Y$      | Official output (billions of US\$)  | 331.93      | 939.63  |
| $K$      | Capital stock (billions of US\$)    | 721.77      | 2136.38 |
| $L$      | Number of workers (millions)        | 23349428.26 | 13.73   |
| $H$      | Average years of schooling          | 5.74        | 2.96    |
| $S$      | Shadow economy (percentage of $Y$ ) | 33.65       | 8.60    |

We use Caselli's (2005) database, which provides the most comprehensive and up to date figures for aggregate capital stocks. Those figures are computed from the Penn World Tables mark 6.1, and are available for 1996.

Data for the shadow economy are taken from Schneider (2006). He calculates the size and development of the shadow economy of 145 countries, including developing, transition, and highly developed OECD countries over the period 1999 to 2003 employing the dymimic and currency demand estimation technique. In our sample, the average size of the shadow economy is 34 percent. Merging our data leaves us with 87 observations when human capital is taken into account and 97 otherwise. The sample includes both developed and developing countries. Summary statistics are presented in table 1 below.

Table 2: Stochastic frontier results

|                       | Cobb-Douglas            |                         |                         |                         | Translog               |                        |                        |                       |
|-----------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|-----------------------|
|                       | Model 1                 |                         | Model 2                 |                         | Model 3                |                        | Model 4                |                       |
|                       | official output (1a)    | corrected output (1b)   | official output (2a)    | corrected output (2b)   | official output (3a)   | corrected output (3b)  | official output (4a)   | corrected output (4b) |
| $\beta_0$             | <b>2.874</b><br>(6.93)  | <b>3.702</b><br>(8.72)  | <b>4.306</b><br>(8.88)  | <b>5.084</b><br>(10.70) | 2.266<br>(0.54)        | 0.322<br>(0.08)        | 6.112<br>(1.44)        | 5.398<br>(1.20)       |
| $\beta_1$             | <b>0.694</b><br>(34.44) | <b>0.657</b><br>(32.82) | <b>0.544</b><br>(13.52) | <b>0.516</b><br>(13.81) | 0.511<br>(1.55)        | <b>0.720</b><br>(2.16) | 0.161<br>(0.37)        | 0.286<br>(0.62)       |
| $\beta_2$             | <b>0.299</b><br>(10.24) | <b>0.323</b><br>(11.13) | <b>0.416</b><br>(8.52)  | <b>0.427</b><br>(8.95)  | <b>0.664</b><br>(1.94) | <b>0.645</b><br>(1.88) | <b>0.769</b><br>(1.73) | 0.727<br>(1.53)       |
| $\beta_3$             |                         |                         |                         |                         | 0.012<br>(1.06)        | -0.002<br>(0.18)       | 0.001<br>(0.05)        | -0.016<br>(0.67)      |
| $\beta_4$             |                         |                         |                         |                         | 0.008<br>(0.40)        | -0.012<br>(0.56)       | -0.024<br>(0.64)       | -0.051<br>(1.28)      |
| $\beta_5$             |                         |                         |                         |                         | -0.025<br>(0.95)       | 0.002<br>(0.09)        | 0.019<br>(0.36)        | 0.058<br>(1.03)       |
| $\sigma$              | 0.132<br>(3.42)         | 0.119<br>(3.05)         | 0.195<br>(3.46)         | 0.172<br>(3.23)         | 0.132<br>(3.53)        | 0.118<br>(3.10)        | 0.194<br>(3.54)        | 0.169<br>(3.20)       |
| $\gamma$              | 0.622<br>(2.86)         | 0.536<br>(1.88)         | 0.833<br>(6.11)         | 0.711<br>(3.57)         | 0.640<br>(3.15)        | 0.543<br>(1.95)        | 0.838<br>(6.46)        | 0.711<br>(3.56)       |
| <i>log-likelihood</i> | -14.39                  | -13.78                  | -17.47                  | -19.86                  | -13.55                 | -13.16                 | -16.89                 | -18.93                |
| <i>N</i>              | 97                      | 97                      | 87                      | 87                      | 97                     | 97                     | 87                     | 87                    |

Absolute *t*-statistics in parentheses. The sigma statistics is defined as  $\sigma = (\sigma_u^2 + \sigma_v^2)^{1/2}$ . The gamma statistics is defined as  $\gamma = \sigma_v^2 / (\sigma_u^2 + \sigma_v^2)$ . Coefficients significant at least at the ten percent level are in bold.

To assess the impact of the shadow economy on measured aggregate efficiency, we estimate each model twice: once with raw output figures, once with output figures corrected for the shadow economy (that is, the sum of official and shadow output such that  $Y_i^* = (I+S_i)Y_i$ , where  $S_i$  is the ratio of unofficial to official output). Estimations 1a, 2a, 3a, 4a use official output and estimations 1b, 2b, 3b, 4b add the shadow economy to these output figures. The first four estimations refer to the Cobb-Douglas specification, while the last four refer to the translog function. Finally, models 1 and 3 use raw labor figures, while models 2 and 4 use human capital-adjusted labor supply. We thus end up estimating eight specifications whose results are displayed in table 2.

Not surprisingly, adding the shadow economy to official output produces different results across the two specifications of the production function. With the Cobb-Douglas specification, adding the shadow results in an increase of the production frontier's intercept. As corrected output is greater than official output by construction, the production frontier shifts upwards. However, the other coefficients remain similar in magnitude. Note that the goodness of fit of the production frontier marginally improves with the inclusion of the

shadow economy (as the increase of the log-likelihood ratio suggests). This remains true when human capital-corrected labor supply is used instead of the raw data.

The table also shows that – contrary to the results of Kneller and Stevens (2003) – the translog specification does not outperform the Cobb-Douglas in our sample. Moreover, the results obtained with the translog specification are less consistent. Namely, only the coefficient on labor is consistently significant, whereas other coefficients are insignificant, with the exception of the coefficient on physical capital in model 3, which turns significant when the shadow economy is added to official output. In addition, model 4 is the only specification whose goodness of fit deteriorates when the shadow economy is taken into account.

What is more interesting though is the evolution of inefficiency scores when output is corrected for the shadow economy. Their summary statistics are displayed in table 3. It appears that correcting output figures for the shadow economy results in an increase of the average and median efficiency scores. Thus, average and median distance to the frontier diminishes. The decrease in the gamma statistics displayed in table 2, indicating a decreasing share of inefficiency in the estimations’ total residuals, points to the same conclusion.

Table 3: Descriptive statistics and correlation of efficiency scores with uncorrected efficiency scores

|           | Cobb-Douglas         |                       |                      |                       | Translog             |                       |                      |                       |
|-----------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
|           | Model 1              |                       | Model 2              |                       | Model 3              |                       | Model 4              |                       |
|           | official output (1a) | corrected output (1b) | official output (2a) | corrected output (2b) | official output (3a) | corrected output (3b) | official output (4a) | corrected output (4b) |
| Min.      | 0.444                | 0.539                 | 0.355                | 0.41                  | 0.431                | 0.527                 | 0.351                | 0.407                 |
| Max.      | 0.934                | 0.937                 | 0.933                | 0.927                 | 0.934                | 0.937                 | 0.936                | 0.93                  |
| Mean      | 0.808                | 0.828                 | 0.748                | 0.774                 | 0.806                | 0.827                 | 0.748                | 0.776                 |
| Median    | 0.826                | 0.835                 | 0.787                | 0.800                 | 0.822                | 0.836                 | 0.786                | 0.797                 |
| Std. dev. | 0.0802               | 0.0655                | 0.131                | 0.103                 | 0.0828               | 0.0663                | 0.132                | 0.102                 |
| Pearson   | 1                    | 0.964                 | 1                    | 0.959                 | 1                    | 0.974                 | 1                    | 0.965                 |
| Spearman  | 1                    | 0.945                 | 1                    | 0.958                 | 1                    | 0.955                 | 1                    | 0.963                 |

All correlations are significant at the one percent level.

This result is not trivial since the efficiency frontier shifts upwards with the inclusion of the shadow economy. As efficiency is a relative measure, one could as well have witnessed a decrease in efficiency. The observed evolution of efficiency scores therefore implies that the

distribution of output figures changes due to the inclusion of the shadow economy. More precisely, countries that were initially farther from the frontier benefited relatively more from the addition of unofficial production than the rest of the sample. Accordingly, minimum efficiency scores increase more than maximum scores, and the standard deviation of efficiency scores decreases. Thus, neglecting the size of the shadow economy results in overestimating inefficiencies in less efficient countries, and, in terms of traditional development accounting, this amounts to overestimating the residual. This is in line with our a priori expectation.

However, the last two lines of table 3 also show that the ranking of countries in terms of efficiency is rarely affected when average efficiency rises. To be more specific, the coefficient of correlation between efficiency scores computed with or without the shadow economy is always greater than 95 percent and is significant at the one-percent level. Similarly, the Spearman rank correlation coefficient (measuring the similarity in country rankings) exceeds 94 percent in all specifications and is also significant at the one percent level. One can therefore conclude that the ranking of countries in terms of efficiency does not dramatically depend on the inclusion of the shadow economy in output figures.

### **3. Conclusion**

We analyzed the impact of adding the shadow economy to official output figures on technical efficiency across up to 97 countries. Including the shadow economy hardly affects the ranking of countries in terms of efficiency. However, it results in a reduction of observed efficiency scores, and thus decreases the residual. Adding the shadow economy to official output figures thus allows a more precise estimate of countries' outputs. Our results are important in several respects. First, they show that ignoring the shadow economy results in biased estimates of the production function. Second, they therefore imply that ignoring the shadow economy leads to mistakes in measured efficiency. Finally, our results provide guidance to the empirical literature on economic output and productivity at large. Given that official output figures as measure of total output are flawed, future research on the determinants and effects of a country's production may clearly benefit from taking a broader view and including the shadow economy in its analysis.



## **References**

- Adkins, C., R. Moomaw, and A. Savvides, 2002, Institutions, freedom, and technical efficiency, *Southern Economic Journal* 69, 92-108.
- Caselli, F., 2005, Accounting for cross-country income differences, in: P. Aghion and S. Durlauf, eds., *Handbook of economic growth*, Elsevier, 679-742.
- Kneller, R., and P.A. Stevens, 2003, The specification of the aggregate production function in the presence of inefficiency, *Economics Letters* 81, 223-226.
- Schneider, F., 2005, Shadow economies around the world: What do we really know?, *European Journal of Political Economy* 21, 598-642.
- Schneider, F., 2006, Shadow Economies of 145 countries all over the world: What do we know?, Discussion paper, Department of Economics, University of Linz, Linz, Austria.

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- 9101 WEISS, Christoph: Price inertia and market structure under incomplete information. Jänner 1991. in: *Applied Economics*, 1992.
- 9102 BARTEL, Rainer: Grundlagen der Wirtschaftspolitik und ihre Problematik. Ein einführender Leitfaden zur Theorie der Wirtschaftspolitik. Jänner 1991; Kurzfassung erschienen unter: Wirtschaftspolitik in der Marktwirtschaft, in: *Wirtschaft und Gesellschaft*, 17. 1991,2, S. 229-249
- 9103 FALKINGER, Josef: External effects of information. Jänner 1991
- 9104 SCHNEIDER, Friedrich; Mechanik und Ökonomie: Keplers Traum und die Zukunft. Jänner 1991, in: R. Sandgruber und F. Schneider (Hrsg.), *Interdisziplinarität Heute*, Linz, Trauner, 1991
- 9105 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf: Manpower training programs and employment stability, in: *Economica*, 63. 1995, S. 128-130
- 9106 ZWEIMÜLLER, Josef: Partial retirement and the earnings test. Februar 1991, in: *Zeitschrift für Nationalökonomie / Journal of Economics*, 57. 1993,3, S. 295-303
- 9107 FALKINGER, Josef: The impacts of policy on quality and price in a vertically integrated sector. März 1991. Revidierte Fassung: On the effects of price or quality regulations in a monopoly market, in: *Jahrbuch für Sozialwissenschaft*.
- 9108 PFAFFERMAYR, Michael, WEISS, Christoph R., ZWEIMÜLLER, Josef: Farm income, market wages, and off-farm labour supply, in: *Empirica*, 18, 2, 1991, S. 221-235
- 9109 BARTEL, Rainer, van RIETSCHOTEN, Kees: A perspective of modern public auditing. Pleading for more science and less pressure-group policy in public sector policies. Juni 1991, dt. Fassung: Eine Vision von moderner öffentlicher Finanzkontrolle, in: *Das öffentliche Haushaltswesen in Österreich*, 32. 1991,3-4, S. 151-187
- 9110 SCHNEIDER, Friedrich und LENZELBAUER, Werner: An inverse relationship between efficiency and profitability according to the size of Upper-Austrian firms? Some further tentative results, in: *Small Business Economics*, 5. 1993,1, S. 1-22
- 9111 SCHNEIDER, Friedrich: Wirtschaftspolitische Maßnahmen zur Steigerung der Effizienz der österreichischen Gemeinwirtschaft: Ein Plädoyer für eine aktivere Industrie- und Wettbewerbspolitik. Juli 1991, in: *Öffentliche Wirtschaft und Gemeinwirtschaft in Österreich*, Wien, Manz, 1992, S. 90-114
- 9112 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Unequal promotion on job ladders, in: *Journal of Labor Economics*, 15. 1997,1,1, S. 70-71
- 9113 BRUNNER, Johann K.: Bargaining with reasonable aspirations. Oktober 1991, in: *Theory and Decision*, 37, 1994, S 311-321.
- 9114 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf: Gender wage differentials and private and public sector jobs. Oktober 1991, in: *Journal of Population Economics*, 7. 1994, S. 271-285
- 9115 BRUNNER, Johann K., WICKSTRÖM, Bengt-Arne: Politically stable pay-as-you-go pension systems: Why the social-insurance budget is too small in a democracy. November 1991, in: *Zeitschrift für Nationalökonomie = Journal of Economics*, 7. 1993, S. 177-190.
- 9116 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Occupational segregation and career advancement. Dezember 1991, in: *Economics Letters*, 39. 1992, S. 229-234
- 9201 SCHNEIDER, Friedrich: Ecological objectives in a market economy: Three simple questions, but no simple answers? Jänner 1992, in: Giersch, H. (Hrsg.), *Environmental economics*, Heidelberg, Springer-Verl., 1993
- 9202 SCHNEIDER, Friedrich: The federal and fiscal structures of representative and direct democracies as models for a European federal union: Some preliminary ideas using the public-choice approach, in: *Journal des Economistes et des Etudes Humaines*, 3. 1993,2
- 9203 SCHNEIDER, Friedrich: The development of the shadow economy under changing economic conditions: Some tentative empirical results for Austria. Revised version. März 1992.
- 9204 HACKL, Franz, SCHNEIDER, Friedrich, WITHERS, Glenn: The public sector in Australia: A quantitative analysis. März 1992, in: Gemmell, N. (ed), *The growth of the public sector*, Aldershot, Elgar, 1993, S. 212-231
- 9205 SCHNEIDER, Friedrich: The federal and fiscal structures of western democracies as models for a federal union in former communist countries? Some thoughts using the public-choice approach. April 1992, in: Wagner, H.-J. (ed.), *On the theory and policy of systematic change*, Heidelberg, Springer-Verl., 1993, S. 135-154
- 9206 WINTER-EBMER, Rudolf: Endogenous growth, human capital, and industry wages. in: *Bulletin of Economic Research*, 4/1994, 289-314.
- 9207 BARTEL, Rainer: Gleichgewicht, Ungleichgewicht und Anpassung in der komparativen Statik. August 1992; 1. Teil erschienen unter: Auf welchen Grundlagen beruhen unsere ökonomischen Aussagen? in: *Wirtschaft und Gesellschaft*, 19, 2, 1993, S. 153-170; 2. Teil erschienen unter: Neoklassische Rationierung, in: *WiSt*, 23, 3, 1993, S. 151-154
- 9208 WEISS, Christoph R.: Market structure and pricing behaviour in Austrian manufacturing. August 1992. in: *Empirica*, 21. 1994, S. 115-131.
- 9209 WINTER-EBMER, Rudolf: Unemployment and individual pay: Wage curve or compensating differentials? erscheint u.d.T.: Wage Curve, Unemployment Duration and Compensating Differentials, in: *Labour Economics*, 3/1996,4, S. 425-434
- 9210 SCHUSTER, Helmut: Chaostheorie und Verkehrswissenschaft? September 1992, in: *Österreichische Zeitschrift für Verkehrswissenschaft*, 1-2, 38. 1992, S. 48-51
- 9211 BARTEL, Rainer, PRUCKNER, Gerald: Strukturelle und konjunkturelle Charakteristika der Budgetpolitik von Bund und Gesamtstaat in Österreich. Oktober 1992, in: *Wirtschaftspolitische Blätter*, 40. 1993,2, S. 134-154
- 9212 PFAFFERMAYR, Michael: Foreign direct investment and exports: A time series approach. Oktober 1992
- 9213 HACKL, Franz, SCHNEIDER, Friedrich: Austrian economic policy since 1945: An exploratory analysis. Oktober 1992, in: Paldam, M. (ed.), *Economic development of small open economies in Europe and South America*, Basingstoke, Macmillan, forthcoming 1994
- 9214 SCHNEIDER, Friedrich: Die Kunst als Wirtschaftsfaktor - vernachlässigbar oder beachtenswert? Oktober 1992, in: *Musicologica Austriaca*, 11. 1993,1, S. 19-29
- 9215 SCHNEIDER, Friedrich: Measuring the size and the development of the shadow economy: Can the causes be found and the obstacles be overcome? November 1992, in: Brandstätter, Hermann and Güth, W. (eds.), *Essays on Economic Psychology*, Heidelberg, Springer-Verl., 1994, S. 208-211
- 9216 SCHNEIDER, Friedrich: Public choice - economic theory of politics: A survey in selected areas. Dezember 1992, in: Brandstätter, Hermann and Güth, W. (eds.), *Essays on*

\*\*\*

*Economic Psychology*, Heidelberg, Springer-Verl., 1994, S. 188-192

\*\*\*

- 9301 SCHUSTER, Helmut: Energiepolitik im Spannungsfeld zwischen Wirtschaft und Umwelt. Jänner 1993, in: Friedrich Schneider (Hrsg.), *Energiepolitik in Österreich*, Linz, Trauner, 1993
- 9302 WINTER-EBMER, Rudolf: Motivation to migrate and economic success. März 1993, erscheint u.d.T.: Motivation for Migration and Economic Success, in: *Journal of Economic Psychology*, 15. 1994, S. 282-284
- 9303 LANDESMANN, Michael and GOODWIN, Richard: Productivity growth, structural change and macroeconomic stability. März 1993
- 9304 PFAFFERMAYER, Michael: Foreign outward direct investment and exports in Austrian manufacturing. März 1993
- 9305 BARTEL, Rainer: Zur Ökonomie der öffentlichen Finanzkontrolle. April 1993, erschienen unter: Öffentliche Finanzkontrolle als politische Machtkontrolle. Eine ökonomische Fundierung, in: *Politische Vierteljahresschrift*, 34. 1993,4, S. 613-639
- 9306 HACKL, Franz: Die Internalisierung von überbetrieblichen Leistungen der Landwirtschaft aus allokatorentheoretischer Sicht. April 1993.
- 9307 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf, FALKINGER, Josef: Retirement of spouses and social security reform, in: *European Economic Review*, 40/1996, S. 471-472
- 9308 BRUNNER, Johann K.: Abilities, needs, and the size of the cake: an axiomatic bargaining approach to redistributive taxation. Juli 1993.
- 9309 HACKL, Franz, PRUCKNER, Gerald: Touristische Präferenzen für den ländlichen Raum: Die Problematik ihrer empirischen Erfassung und Internalisierung. Juli 1993. Ersch. in: *Gesellschaftliche Forderungen an die Landwirtschaft / Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues (GEWISOLA)*, hrsg. von Konrad Hagedorn ... 1994, Schriften der GEWISOLA, Bd. 30
- 9310 NECK, Reinhard, SCHNEIDER, Friedrich: Steuersystem und Schattenwirtschaft. Juli 1993.
- 9311 POINTNER, Johannes und SCHNEIDER, Friedrich: Österreich im internationalen Wirtschaftssystem, August 1993, in: Ewald Nowotny und Günther Winckler (Hrsg.), *Grundzüge der Wirtschaftspolitik Österreichs*, 1994.
- 9312 SCHNEIDER, Friedrich: The Relationship between efficiency and profitability with respect to the size of firms: an empirical investigation for Austria. September 1993.
- 9313 ÖTSCH, Walter: Die mechanistische Metapher in der Theoriengeschichte der Nationalökonomie. September 1993.
- 9314 BARTEL, Rainer: Wirtschaftspolitische Kontrolle und Beratung: Grundlagen, Probleme, Erfordernisse. September 1993, erschienen als: Kontrolle und Beratung in der Wirtschaftspolitik, in: *Wirtschaftspolitische Blätter*, 41. 1994,4, S. 442-462
- 9315 BARTH, Erling and ZWEIMÜLLER, Josef: Relative wages under decentralized and under corporatist bargaining systems, in: *Scandinavian Journal of Economics*, 97. 1995,3, S. 369-384
- 9316 FALKINGER, Josef and ZWEIMÜLLER, Josef: The impact of income inequality on product diversity and economic growth. Oktober 1993.
- 9317 SCHNEIDER, Friedrich: Anreizorientierte Systeme im Gesundheitswesen unter besonderer Berücksichtigung des stationären Sektors. Oktober 1993.
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- 9319 BARTEL, Rainer: Egoismus, Altruismus, Ineffizienz und Kontrolle im öffentlichen Bereich: Ein kurzer Blick auf die Argumente und ihre Implikationen. November 1993, in: *Wirtschaft und Gesellschaft*, 20. 1994,2, S. 231-246
- 9320 BURGER, Christina: Theorien der Koalitionsbildung und ihre Anwendbarkeit auf österreichische Regierungen. November 1993.

- 9321 BARTEL, Rainer: Konjunkturelle Selbststabilisierung oder kompensatorische Nachfragepolitik? Ein Leitfaden für Studenten. Dezember 1993, tw. erschienen unter: Konjunkturprobleme - Selbstheilung oder Staatseingriffe?, in: *WiSo*, 17. 1994,4, S. 111-39, erscheint tw. unter: Lohnindexierung - Effiziente Institution zur Stabilisierung der Wirtschaft?, in: *WiSt*, 26. 1997,3, S. 154-156

\*\*\*

- 9401 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Immigration and the Earnings of Young Native Workers. Jänner 1994, in: *Oxford Economic Papers*, 48. 1996, S. 473-491
- 9402 KUNST, Robert, HAUSER, Michael: Fractionally Integrated Models With ARCH Errors. Jänner 1994.
- 9403 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf: Internal Markets and Firm-Specific Determination of Earnings in the Presence of Immigrant Labor, in: *Economics Letters*, 48. 1995, S. 185-191
- 9404 SCHUSTER, Helmut: Energie und Umwelt. März 1994.
- 9405 PFAFFERMAYER, Michael: Testing for Ownership Advantages of Direct Investing Firms. März 1994.
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- 9407 FALKINGER, Josef: Social Stability and the Equity-Efficiency Trade-off. April 1994.
- 9408 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Do Immigrants Displace Native Workers? Mai 1994, erscheint in: *Journal of Population Economics*, 1998.
- 9409 FALKINGER, Josef: How to overcome free-riding: Rewarding deviations from average. Mai 1994. Revidierte Fassung: Efficient Private Provision of Public Goods by Rewarding Deviations from Average, in: *Journal of Public Economics*, 62. 1996,3, S. 413-422
- 9410 ZWEIMÜLLER, Josef: Wealth distribution, innovations, and economic growth. Mai 1994.
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- 9414 WINTER-EBMER, Rudolf: Sex discrimination and competition in product and labour markets, in: *Applied Economics*, 27. 1995,9, S. 849-857
- 9415 FALKINGER, Josef, ZWEIMÜLLER, Josef: The cross-country Engel curve for product diversification, August 1994, in: *Structural Change and Economic Dynamics*, 7. 1996,1, S. 79-97
- 9416 FALKINGER, Josef: Tax evasion, consumption of public goods and fairness, August 1994, in: *Journal of Economic Psychology*, 16, 1995, S. 63 - 72.
- 9417 SCHNEIDER, Friedrich: Einige Gedanken zur Harmonisierung indirekter Steuern in der Europäischen Union, September 1994.
- 9418 WINTER-EBMER, Rudolf: Firm size, earnings and displacement risk, Oktober 1994, erscheint in: *Economic Inquiry*, 2000.
- 9419 WEISS, Christoph: Labour market adjustment in U.S. manufacturing: Does market structure matter? Oktober 1994.
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\*\*\*

- 9501 BARTEL, Rainer: Reform des öffentlichen Sektors - Grundlagen und Grundsätze. Jänner 1995.
- 9502 RIESE, Martin: The GINI-index as a measure of the goodness of prediction, Jänner 1995, in: *Bulletin of Economic Research*, 49. 1997,2, S. 127-135.

- 9503 AIGINGER, Karl, WINTER-EBMER, Rudolf und ZWEIMÜLLER, Josef: Eastern European Trade and the Austrian Labour Market, in: *Weltwirtschaftliches Archiv*, 132. 1996,3, S. 476-500
- 9504 WEISS, Christoph: Size, Growth, and Survival of Upper Austrian Farms in the 1980s, Februar 1995. in: Sotte, F. and Zanoli, R.: "The Regional Dimension of Agricultural Economics and Politics", forthcoming (1995).
- 9505 BARTEL, Rainer: Umweltpolitik in den Reformländern Europas. Voraussetzungen und Erfordernisse, Februar 1995.
- 9506 PFAFFERMAYR, Michael: Foreign Outward Direct Investment and Exports in Austrian Manufacturing: Substitutes or Complements?, March 1995.
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- 9512 ÖTSCH, Walter: Kreativität und Logik im ökonomischen Handlungsmodell, Mai 1995.
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- \*\*\*
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- 9602 BÖS, Dieter und SCHNEIDER, Friedrich: Private-public partnership: Gemeinschaftsunternehmen zwischen Privaten und der öffentlichen Hand, Februar 1996.
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- 9607 KEUSCHNIGG, Christian u. KOHLER Wilhelm: Innovation, Capital Accumulation and Economic Transition, revised version April 1996.
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- 9610 BARTEL, Rainer, POINTNER, Johannes, SCHNEIDER, Friedrich: Österreich im internationalen Wirtschaftssystem, Juli 1996, erschienen in: E.Nowotny und G. Winckler (Hg.), *Grundzüge der Wirtschaftspolitik Österreichs*, 2. Aufl., Manz-Verlag, Wien 1997, S. 49-98.
- 9611 SCHNEIDER, Friedrich, VOLKERT, Jürgen: Die Realisierung ökologisch-orientierter Wirtschaftspolitik - eine Unmöglichkeit? Überlegungen aus Sicht der Neuen Politischen Ökonomie, Juli 1996.
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- 9615 WINTER-EBMER, Rudolf: Benefit Duration and Unemployment Entry: Quasi-Experimental Evidence for Austria, Oktober 1996.
- 9616 WINTER-EBMER, Rudolf: Potential Unemployment Benefit Duration and Spell Length: Lessons from a Quasi-Experiment in Austria, in: *Oxford Bulletin of Economics and Statistics*, 60. 1998,1, S. 33-45
- 9617 SCHNEIDER, Friedrich, FREY, Bruno S.: Warum wird die Umweltökonomik kaum angewendet?, November 1996.
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- \*\*\*
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- \*\*\*
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- \*\*\*
- 9901 WINTER-EBMER, Rudolf and ZWEIMÜLLER, Josef: Firm Size Wage Differentials in Switzerland: Evidence from Job Changers, Jänner 1999, erscheint in: *American Economic Review, Papers & Proceedings*, 1999.

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- \*\*\*
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\*\*\*

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