Kemnitz, Alexander

Working Paper
Can immigrant employment alleviate the demographic burden? : The role of union centralization

CESifo Working Paper, No. 1525

Provided in Cooperation with:
Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Kemnitz, Alexander (2005) : Can immigrant employment alleviate the demographic burden? : The role of union centralization, CESifo Working Paper, No. 1525, Center for Economic Studies and Ifo Institute (CESifo), Munich

This Version is available at:
http://hdl.handle.net/10419/18989

Terms of use:
Documents in EconStor may be saved and copied for your personal and scholarly purposes.
You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.
CAN IMMIGRANT EMPLOYMENT ALLEVIATE THE DEMOGRAPHIC BURDEN? THE ROLE OF UNION CENTRALIZATION

ALEXANDER KEMNITZ

CESifo WORKING PAPER NO. 1525
CATEGORY 3: SOCIAL PROTECTION
AUGUST 2005

An electronic version of the paper may be downloaded

* from the SSRN website:  www.SSRN.com
* from the CESifo website:  www.CESifo-group.de
CAN IMMIGRANT EMPLOYMENT ALLEVIATE THE DEMOGRAPHIC BURDEN?
THE ROLE OF UNION CENTRALIZATION

Abstract

This paper investigates the effect of labor immigration on public pensions when wage setting by a centralized trade union leads to unemployment. It is shown that immigration improves the financial soundness of pay-as-you-go pensions if and only if it diminishes total employment. This occurs if the absolute value of the elasticity of labor demand exceeds the unemployment rate.

JEL Code: F22, H55, J51.

Keywords: immigration, public pensions, trade union.

Alexander Kemnitz
University of Mannheim
Department of Economics
L 7, 3 - 5
68131 Mannheim
Germany
kemnitz@econ.uni-mannheim.de

Thanks to Eckhard Janeba and Jovan Zamac for helpful comments. The usual disclaimer applies.
1 Introduction

Opening up the borders for international migration is one heavily disputed response to the old-age security crisis faced by most industrialized countries. Proponents of such measures often point to the beneficial impact on the old-age dependency ratio arising from age differentials between average migrants and natives.\footnote{However, this argumentation neglects the fact that these immigrants become entitled for later pension benefits. Therefore, the continuity of the improvement depends on the pension contributions by the immigrant offspring. See Razin and Sadka (1999), Casarico and Devillanova (2003) and Krieger (2004) for a discussion.} Formalized by Razin and Sadka (1999, 2000) in the context of a full employment economy, this argument is a driving force behind the net positive fiscal effect of immigration identified by quantitative studies (Storesletten, 2000; Sinn, 2001).

Obviously, the strength of this reasoning is intimately linked to the aggregate employment effects of immigration. However, these effects are ambiguous, once the unrealistic assumption of full employment is abandoned (Schmidt et al., 1994; Razin and Sadka, 1995; Fuest and Thum, 2000). In the binding minimum wage economy of Razin and Sadka (1995), for example, immigration has no consequences for total employment, which renders a positive effect on pensions impossible.

The literature on immigration to economies with labor market distortions typically does not consider pay-as-you-go pensions. Nevertheless, it suggests that the stabilizing role of immigration for public pensions emerges in those settings where wages are flexible enough to absorb some of the increased labor supply. This presumption is corroborated by the findings in Kemnitz (2003), the only study known to the author, which explicitly links immigration and public pensions in the presence of unemployment.

Explaining unemployment as the result of trade union power, Kemnitz (2003) adheres to the standard model where unions are organized at the firm level. However, as emphasized by a number studies originating with Calmfors and Drifill (1988), there is significant international variation in the degree of union centralization. Therefore, firm level bargaining may be a poor description of the wage setting process in many countries, with unexplored implications for the labor market effects of immigration.

This paper scrutinizes the existence of beneficial effects of immigration on public pensions in an economy where the labor market is dominated by a large trade union pursuing the interest of workers. It shows that the consideration of union centralization reverts the above argument in favor of immigrant workers. In any unemployment...
equilibrium, immigration is found to harm public pensions whenever it increases the
total number of jobs. An alleviation of the demographic burden of social security occurs
only if total employment declines. Whether this is the case depends on the existing
level of unemployment in the host economy.

The economic intuition behind this result rests on the fact that the trade union chooses
a wage in the inelastic part of labor demand. If it did not, the union could increase
the expected utility of its members by a wage cut: with elastic labor demand, a wage
reduction would not only mitigate income uncertainty by lowering the unemployment
rate, but also increase the wage bill, the total amount of resources available to the work-
force. But given the inelasticity of labor demand, any job creation due to immigration
necessarily erodes the wage bill, the base of public pension financing.

The paper is organized as follows. The next section introduces the model and derives
the labor market equilibrium. Section 3 deals with the effects of immigration. Some
concluding remarks are offered in Section 4.

## 2 The Model

Consider an an economy of two overlapping generations where people work in the first
period of life, supplying inelastically one unit of labor, and retire in the second. The
size of each native generation is normalized to unity: $N_t = 1$. However, the workforce
increases unexpectedly in period $t$ due to the immigration of $M_t$ workers from other
countries.

In every period, atomistic firms produces the single output good by a standard neo-
classical production function combining physical capital $K$ and labor $L$:

$$Y_t = F(K_t, L_t) = L_t f(k_t),$$

where $k_t = K_t/L_t$ is the capital intensity. Profit maximization leads to the usual
marginal productivity conditions:

$$r_t = f'(k_t), \quad (1)$$

$$w_t = f(k_t) - k_tf'(k_t). \quad (2)$$

The capital market is competitive and the interest rate $r_t$ adjusts such that the existing
capital stock is fully utilized. However, aggregate employment is endogenous, as firms
Immigrant Employment and Demographic Burden

hire labor only up to the point where its marginal productivity equals the wage rate \( w_t \) set by the trade union. The determinants of union behavior will be discussed below. From (2) and (1), a wage increase reduces employment and the interest rate:

\[
\frac{\partial L_t}{\partial w_t} = \frac{L_t}{f''(k_t)k_t^2} < 0, \quad (3)
\]

\[
\frac{\partial r_t}{\partial w_t} = -\frac{1}{k_t} < 0. \quad (4)
\]

For further reference, we define the elasticity of labor demand as:

\[
\epsilon_t = \frac{f(k_t) - k_tf'(k_t)}{f''(k_t)k_t^2} < 0.
\]

Every individual born in period \( t \) receives utility out of consumption in both periods of life according to the utility function:

\[
U_t = U(c^i_t, z^i_{t+1}). \quad (5)
\]

To simplify matters, (5) is the same for all individuals and obeys the usual concavity and Inada properties.

Let the employment status of a young household be denoted by \( i \in \{E, U\} \). Employed individuals earn a net wage \((1 - \tau_U - \tau_P)w_t\), where \( \tau_U \) and \( \tau_P \) are the contribution rates to unemployment insurance and public pensions. Unemployed individuals receive the unemployment benefit \( b_t \), whereas the current old are paid the pension \( p^i_t \). Hence, the consumption constraints are:

\[
c^i_t = d(1 - \tau_U - c)w_t + (1 - d)b_t - s^i_t, \quad (6)
\]

\[
z^i_{t+1} = p^i_{t+1} + (1 + r_t)\lambda^i_t, \quad (7)
\]

where \( s^i_t \) are private savings and \( d = 1 \iff i = E \) and \( d = 0 \iff i = U \). Following Cassamatta et al. (2000), the public pension consists of a demogrant benefit \( \bar{p}_t \) and an earnings related component where \( \Omega_t \) denotes the equivalence factor:

\[
p^i_{t+1} = \bar{p}_t + \Omega_{t+1}(dw_t + (1 - d)b_t).
\]

After the employment status is known, individuals decide on the amount of individual old-age savings, characterized by the first-order condition:

\[
u^i_1 + Ru^i_2 = 0, \quad (8)
\]
where we abbreviate notation according to: $u_i^1 = u_1(c_{i, t+1}^1, z_{i, t+1}^1)$. Individual indirect utility in state $i$ can be written as $v(I_i^t, r_{t+1})$, $I_i^t = c_{i, t}^1 + z_{t+1}/(1 + r_{t+1})$ denoting discounted lifetime income. This leads to the expected indirect utility of a generation $t$ individual:

$$V_t = (1 - \eta_t)v(I_t^E, r_{t+1}) + \eta_t v(I_t^U, r_{t+1}),$$

(9)

where $\eta_t$ is the unemployment probability of a member of generation $t$ to be unemployed during youth. By the law of large numbers, $\eta_t$ is also equal to the unemployment rate. We posit that employment chances are distributed equally across all households, including immigrants: $\eta_t = \frac{N_t + M_t - L_t}{N_t + M_t}$. Moreover, we assume that individuals are risk averse, that is indirect utility is concave in income:

$$\frac{\partial v}{\partial I_t^i} > 0, \quad \frac{\partial^2 v}{\partial I_t^i} < 0.$$

For simplicity, physical capital depreciates after one period. As a consequence, the capital stock in every period is determined by the savings of the last period:

$$K_{t+1} = \eta_t(N_t + M_t)s_t^U + (1 - \eta_t)(N_t + M_t)s_t^E.$$

(10)

The welfare state of the economy cares for both the unemployed and the elderly. Taking both contribution rates as constant over time, budget balance requires:

$$\tau_U w_t L_t = b_t(N_t + M_t - L_t),$$

$$\tau_P w_t L_t = (N_{t-1} + M_{t-1})\bar{p}_t + \Omega_t(w_{t-1}L_{t-1} + b_t(N_{t-1} + M_{t-1} - L_{t-1})).$$

(11)  (12)

The assumption of a constant $\tau_U$ is usual in the literature, see Razin and Sadka (1999) and Casarico and Devillanova (2003). In the context of small unions, Kemnitz (2004) has shown that a constant contribution rate to unemployment insurance is more conducive to wage flexibility and hence immigrant employment creation than other social policies.

All workers of a generation are organized in a trade union, acting in the current interest of workers. In contrast to the existing literature (Corneo and Marquardt, 2000; Irmen and Wigger, 2002), this union is large in the sense that it controls the economy-wide wage.

---

2 This property results from various assumptions on direct utility (5), the most obvious one being additive separability: $U_{12} = 0$. 
In any standard overlapping-generation framework like the present one, the conflict between labor and capital is necessarily also a conflict between the young and the old, since present union members become capitalists later in life. Therefore, maximizing the current utility of workers has to be distinguished from maximizing expected lifetime utility. In the latter case, the union would have to take the consequences of current wage setting on future interest rates and wages via aggregate savings into account. But as a higher return on capital impinges on the wage, such a union would actively pursue the interest of future capitalists at the expense of future workers.\textsuperscript{3} This would seriously blur the general identification of a trade union as the agent representing labor. Hence, we restrict the concern of the union to the current utility of workers, internalizing the effect of its decisions on the unemployment rate and welfare state budgets, but paying no attention to dynamic repercussions on factor prices.

As a consequence, the problem of the trade union in period $t$ is to maximize (9) with respect to $w_t$ for a given capital stock $K_t$ and future interest rate $r_{t+1}$, taking the marginal productivity conditions (1) and (2), individual utility maximization (8) and the welfare state budgets (11) and (12) into account. Using $v_t^i = v_t^i(I_t^i, r_{t+1})$ as a shortcut, we have the first order condition:

$$
\frac{\partial L_t}{\partial w_t} v_t^E + L_t \frac{\partial v_t^E}{\partial w_t} \frac{\partial I_t^E}{\partial w_t} - \frac{\partial L_t}{\partial w_t} v_t^U + (N_t + M_t - L_t) \frac{\partial v_t^U}{\partial I_t^U} \frac{\partial I_t^U}{\partial w_t} \leq 0,
$$

(13)

with strict equality if $L_t < N_t + M_t$.

**Proposition 1.** In any labor market equilibrium with unemployment, the union sets a wage in the inelastic region of labor demand.

**Proof.** Unemployment results if the second-order condition $\frac{\partial^2 V_t}{\partial w_t^2} < 0$ is fulfilled and (13) holds with equality. Multiplying that expression by $w/L$ and inserting:

$$
\frac{\partial I_t^E}{\partial w_t} = (1 - \tau_U - \tau_P) + \left( \frac{\Omega_{t+1}}{1 + r_{t+1}} \right) \frac{I_t^E - \frac{p_{t+1}}{1 + r_{t+1}}}{w_t},
$$

$$
\frac{\partial I_t^U}{\partial w_t} = \left( 1 + \frac{\Omega_{t+1}}{1 + r_{t+1}} \right) \frac{\tau_U L_t \left[ (N_t + M_t - L_t)(1 + \epsilon_t) + \epsilon_t L_t \right]}{(N_t + M_t - L_t)^2}
$$

$$
= (1 + \epsilon_t) \frac{I_t^E - \frac{p_{t+1}}{1 + r_{t+1}}}{w_t} + \left( 1 + \frac{\Omega_{t+1}}{1 + r_{t+1}} \right) \frac{\tau_U \epsilon_t^2 I_t^2}{(N_t + M_t - L_t)^2}
$$

\textsuperscript{3} This complication is original to the assumption of a large union. As emphasized by Devereux and Lockwood (1991), the wage policy of a small union has a negligible impact on aggregate savings and hence the interest rate.
leads to:

\[ \varepsilon_t \left[ v(I_t^E) - v(I_t^U) \right] + \frac{\partial v^E_t}{\partial I_t^E} (I_t^E - \frac{\bar{p}_{t+1}}{1 + r_{t+1}}) + \varepsilon_t \frac{\partial v^U_t}{\partial I_t^U} (I_t^U - \frac{\bar{p}_{t+1}}{1 + r_{t+1}}) + (1 + \varepsilon_t) \tau_u w_t \frac{\partial v^U_t}{\partial I_t^U} (1 + \frac{\Omega_{t+1}}{1 + r_{t+1}}) = 0. \]

Expansion by \( \varepsilon_t \frac{\partial v^E_t}{\partial I_t^E} (I_t^E - \frac{\bar{p}_{t+1}}{1 + r_{t+1}}) \) gives:

\[ \varepsilon_t \left[ v(I_t^E) - \frac{\partial v^E_t}{\partial I_t^E} (I_t^E - \bar{p}_{t+1}) - v^U_t + \frac{\partial v^U_t}{\partial I_t^U} (I_t^U - \bar{p}_{t+1}) \right] + (1 + \varepsilon_t) \tau_u w_t \frac{\partial v^U_t}{\partial I_t^U} (1 + \frac{\Omega_{t+1}}{1 + r_{t+1}}) \]

\[ = 0. \quad (14) \]

Because \( V(I) - \frac{\partial V}{\partial I} (I - x) \) increases in \( I \):

\[ \frac{\partial[V(I) - \frac{\partial V}{\partial I} (I - x)]}{\partial I} = -\frac{\partial^2 V}{\partial I^2} (I - x) > 0, \]

the first row in (14) has a negative sign. The term in square brackets in the second row being unambiguously positive, (14) can hold only if \( \varepsilon > -1 \), rendering the second row positive. □

Increasing the wage has two effects. On the one hand, the reduction in employment diminishes the expected utility of risk averse workers. On the other hand, it affects the wage bill, the total income available to the workforce. In any part of the labor demand curve which is not inelastic, a wage reduction improves equality without sacrificing total income, and therefore increases the expected utility of workers. Hence, any equilibrium wage leading to unemployment must trade off the higher income risk with the higher total income due to a wage increase, which requires labor demand to be inelastic in equilibrium.

From a modelling perspective, the existence of an unemployment equilibrium in the presence of union centralization is a delicate issue. Layard et al. (1991) set forth a number of arguments why union centralization is likely to lead to full employment, including the fact that unemployment can never result when the technology implies a generally elastic labor demand. However, empirical evidence supports neither such a technology nor an absence of unemployment in economies with centralized wage setting.\(^4\) This makes an analysis of the unemployment equilibrium worthwhile.

\(^4\) According to Hamermesh (1993), Table 3.2, estimates of the wage elasticity of unconditional factor demand, which is the relevant variable here, average around unity. Cahuc and Zylberberg (2004), Table 12.13 report an average unemployment rate in centralized economies of 9% in 1993.
3 The Effects of Immigration

We now consider the impact of immigration on employment and the welfare state. To simplify the exposition, we assume that unemployment exists before and after immigration. This will be discussed at the end of this section.

Proposition 2. Immigration leads to a rise of the unemployment benefit and has an ambiguous impact on total employment. Employment rises (falls) if the unemployment rate is lower (higher) than the absolute value of the elasticity of labor demand.

Proof. From (14):

\[
\frac{dL_t}{dM_t} = -\frac{\partial^2 V_t}{\partial w_t \partial M_t},
\]

where the denominator is positive due to the second order condition of the union’s maximization problem (\(\frac{\partial^2 V_t}{\partial w_t^2} < 0\)). The sign of the numerator:

\[
\frac{\partial^2 V_t}{\partial w \partial M} \gtrless 0 \iff L_t \gtrless (1 + \varepsilon)(N_t + M_t),
\]

equals the sign of the last term in square brackets. Employing (11) yields:

\[
\frac{dL_t}{dM_t} \gtrless 0 \iff \eta_t \gtrless -\varepsilon_t.
\]

The unemployment benefit reacts according to:

\[
\frac{db_t}{dM_t} = -\frac{w_t}{\varepsilon_t} \left[ L_t - (1 + \varepsilon_t)(N_t + M_t) \right] \frac{dL_t}{dM_t},
\]

which is positive because the term in square brackets has the same sign as \(\frac{dL_t}{dM_t}\). □

If the wage (and hence total employment) remained at the pre-migration level, immigration would decrease the unemployment benefit and make the state of unemployment more likely. Because members are risk averse, the union adjusts the wage to correct for this imbalance. However, the inelasticity of labor demand makes the direction of this adjustment ambiguous: cutting the wage brings more individuals into employment on
the one hand, but diminishes total contributions on the other hand. If the unemployment rate is very high, the effect on the dependency ratio is stronger and the union mitigates the demanded wage. For low unemployment, the total contribution effect dominates and the wage rises.

While immigration increases social protection for the unemployed unambiguously, we now consider the effect on public pensions.

**Proposition 3.** *Immigration alleviates the demographic burden only if it decreases total employment.*

**Proof.** Let $P_t = \tau P w_t L_t$ denote the total amount paid to the retirees in period $t$. Immigration affects these revenues according to:

$$\frac{\partial P_t}{\partial M_t} = \frac{\tau P w_t}{N_{t-1} + M_{t-1}} \left(1 + \frac{1}{\varepsilon} \right) \frac{dL_t}{dM_t} \quad \square$$

With the number of pensioners and the contribution rate being fixed, pension payments to the old are a given fraction of the total wage bill. This wage bill increases only when total employment decreases. This turns the usual argument that immigration helps the welfare state through higher employment upside down.

Combining Proposition 2 and 3, one can conclude that immigration helps the soundness of public pensions only if the unemployment rate exceeds the absolute value of the elasticity of labor demand. In the light of the empirical estimates on $\varepsilon_t$ lying around unity, this is unlikely to be the case. Rather, our results predict immigration to increase aggregate employment and to harm public old-age security.

Up to here, we have presumed that the economy remains in an unemployment equilibrium. However, one can not rule out that the union sets the full employment wage after immigration. However, this would mean that immigration is a perfect cure to the whole problem of unemployment. But even if that happened, the total wage bill need not increase. Consider for example a CES production function with an elasticity of substitution below unity, where labor demand is inelastic for all employment levels above a certain threshold value. As the shift to the corner solution implies a rise in employment, the new equilibrium must feature inelastic labor demand whenever unemployment prevailed before immigration.

---

5 For elasticities of substitution of unity and above, labor demand is unambiguously elastic everywhere.
4 Conclusion

This paper puts some caution on the conventional wisdom that immigrant labor improves the financial sustainability of pay-as-you-go financed pensions. In a model with centralized wage setting, it was shown that immigration benefits the retirees only if total employment declines. The creation of additional jobs, in contrast, harms old-age security. This finding originates in the fact that labor demand is inelastic in equilibrium. Consequently, any employment increase reduces the wage bill, the source of public pension financing.

It should be stressed that inelasticity of labor demand can also hold in other labor market settings, including full employment. However, the existing literature on the effect of immigration and public pensions (Razin and Sadka, 2000; Casarico and Devillanova, 2003; Kemnitz, 2003) has masked this possibility by relying on technologies with generally elastic labor demands. This paper, in contrast, highlights the structural interrelation between inelasticity and centralized union wage setting.

In line with the public debate, the analysis has focussed on the short-run impact of immigration on public pensions, which should clearly be disentangled from utility effects. Consider a current retiree, the income of whom consists of both pension payments and capital returns. Immigration exerts countervailing effects on both sources: when employment increases, total pension contributions decrease but the interest rate rises, whereas the opposite is true for an employment decline. Therefore, the attitude of the retirees towards immigration is ambiguous. Also, the impact on the income of the current young is unclear. Immigration increases the unemployment benefit, but increases or decreases net earnings of the employed, depending on the direction of the wage adjustment. Accordingly, the probability to enter the state of employment changes.

For the overall utility of the young, the interest rate prevailing in the next period plays a crucial role. Among others, the return to capital in a period depends on current wage setting and on the level of the capital stock, which is affected by former wage setting via savings decisions. Therefore, any conclusions are highly sensitive to assumptions on the income dependency of the savings ratio, the relation between the capital stock and the elasticity of labor demand and the pension contribution rate, determining the mix between private and public funding of old-age consumption. These aspects, not lying at the heart of the public debate and distracting attention from the key mechanism behind our results, are left for future research.
References


CESifo Working Paper Series
(for full list see www.cesifo-group.de)

1461 Steffen Huck, Kai A. Konrad and Wieland Müller, Merger without Cost Advantages, May 2005

1462 Louis Eeckhoudt and Harris Schlesinger, Putting Risk in its Proper Place, May 2005

1463 Hui Huang, John Whalley and Shunming Zhang, Trade Liberalization in a Joint Spatial Inter-Temporal Trade Model, May 2005

1464 Mikael Priks, Optimal Rent Extraction in Pre-Industrial England and France – Default Risk and Monitoring Costs, May 2005

1465 François Ortalo-Magné and Sven Rady, Heterogeneity within Communities: A Stochastic Model with Tenure Choice, May 2005

1466 Jukka Pirttilä and Sanna Tenhunen, Pawns and Queens Revisited: Public Provision of Private Goods when Individuals make Mistakes, May 2005

1467 Ernst Fehr, Susanne Kremhelmer and Klaus M. Schmidt, Fairness and the Optimal Allocation of Ownership Rights, May 2005

1468 Bruno S. Frey, Knight Fever – Towards an Economics of Awards, May 2005

1469 Torberg Falch and Marte Rønning, The Influence of Student Achievement on Teacher Turnover, May 2005

1470 John Komlos and Peter Salamon, The Poverty of Growth with Interdependent Utility Functions, May 2005

1471 Hui Huang, Yi Wang, Yiming Wang, John Whalley and Shunming Zhang, A Trade Model with an Optimal Exchange Rate Motivated by Current Discussion of a Chinese Renminbi Float, May 2005


1473 Kai A. Konrad, Silent Interests and All-Pay Auctions, May 2005

1474 Ingo Vogelsang, Electricity Transmission Pricing and Performance-Based Regulation, May 2005

1475 Spiros Bougheas and Raymond Riezman, Trade and the Distribution of Human Capital, June 2005

M. Hashem Pesaran, L. Vanessa Smith and Ron P. Smith, What if the UK had Joined the Euro in 1999? An Empirical Evaluation Using a Global VAR, June 2005

Chang Woon Nam and Doina Maria Radulescu, Effects of Corporate Tax Reforms on SMEs’ Investment Decisions under the Particular Consideration of Inflation, June 2005

Panos Hatzipanayotou, Sajal Lahiri and Michael S. Michael, Globalization, Cross-Border Pollution and Welfare, June 2005

John Whalley, Pitfalls in the Use of Ad valorem Equivalent Representations of the Trade Impacts of Domestic Policies, June 2005

Edward B. Barbier and Michael Rauscher, Trade and Development in a Labor Surplus Economy, June 2005

Harrie A. A. Verbon and Cees A. Withagen, Tradable Emission Permits in a Federal System, June 2005

Hendrik Hakenes and Andreas Irmen, On the Long-Run Evolution of Technological Knowledge, June 2005

Nicolas Schmitt and Antoine Soubeyran, A Simple Model of Brain Circulation, June 2005

Carsten Hefeker, Uncertainty, Wage Setting and Decision Making in a Monetary Union, June 2005

Ondřej Schneider and Jan Zápal, Fiscal Policy in New EU Member States – Go East, Prudent Man!, June 2005

Christian Schultz, Virtual Capacity and Competition, June 2005

Yvan Lengwiler and Elmar Wolfstetter, Bid Rigging – An Analysis of Corruption in Auctions, June 2005

Johannes Becker and Clemens Fuest, Does Germany Collect Revenue from Taxing Capital Income?, June 2005

Axel Dreher and Panu Poutvaara, Student Flows and Migration: An Empirical Analysis, June 2005

Bernd Huber and Marco Runkel, Interregional Redistribution and Budget Institutions under Asymmetric Information, June 2005

Guido Tabellini, Culture and Institutions: Economic Development in the Regions of Europe, July 2005
Kurt R. Brekke and Michael Kuhn, Direct to Consumer Advertising in Pharmaceutical Markets, July 2005

Martín Gonzalez-Eiras and Dirk Niepelt, Sustaining Social Security, July 2005

Alfons J. Weichenrieder, (Why) Do we need Corporate Taxation?, July 2005

Paolo M. Panteghini, S-Based Taxation under Default Risk, July 2005

Panos Hatzipanayotou and Michael S. Michael, Migration, Tied Foreign Aid and the Welfare State, July 2005

Agata Antkiewicz and John Whalley, BRICSAM and the Non-WTO, July 2005

Petr Hedbávný, Ondřej Schneider and Jan Zápal, A Fiscal Rule that has Teeth: A Suggestion for a ‘Fiscal Sustainability Council’ underpinned by the Financial Markets, July 2005

J. Atsu Amegashie and Marco Runkel, Sabotaging Potential Rivals, July 2005


Xenia Matschke, Costly Revenue-Raising and the Case for Favoring Import-Competing Industries, July 2005

Horst Raff and Nicolas Schmitt, Why Parallel Trade may Raise Producers Profits, July 2005

Alberto Bisin and Piero Gottardi, Efficient Competitive Equilibria with Adverse Selection, July 2005

Peter A. Zadrozny, Necessary and Sufficient Restrictions for Existence of a Unique Fourth Moment of a Univariate GARCH(p,q) Process, July 2005

Rainer Niemann and Corinna Treisch, Group Taxation, Asymmetric Taxation and Cross-Border Investment Incentives in Austria, July 2005

Thomas Christiaans, Thomas Eichner and Ruediger Pethig, Optimal Pest Control in Agriculture, July 2005

Biswa N. Bhattacharyay and Prabir De, Promotion of Trade and Investments between China and India: The Case of Southwest China and East and Northeast India, July 2005

Jean Hindriks and Ben Lockwood, Decentralization and Electoral Accountability: Incentives, Separation, and Voter Welfare, July 2005

Michelle R. Garfinkel, Stergios Skaperdas and Constantinos Syropoulos, Globalization and Domestic Conflict, July 2005
1511 Jesús Crespo-Cuaresma, Balázs Égert and Ronald MacDonald, Non-Linear Exchange Rate Dynamics in Target Zones: A Bumpy Road towards a Honeymoon – Some Evidence from the ERM, ERM2 and Selected New EU Member States, July 2005


1513 Christian Keuschnigg and Martin D. Dietz, A Growth Oriented Dual Income Tax, July 2005

1514 Fahad Khalil, David Martimort and Bruno Parigi, Monitoring a Common Agent: Implications for Financial Contracting, August 2005

1515 Volker Grossmann and Panu Poutvaara, Pareto-Improving Bequest Taxation, August 2005

1516 Lars P. Feld and Emmanuelle Reulier, Strategic Tax Competition in Switzerland: Evidence from a Panel of the Swiss Cantons, August 2005

1517 Kira Boerner and Silke Uebelmesser, Migration and the Welfare State: The Economic Power of the Non-Voter?, August 2005

1518 Gabriela Schütz, Heinrich W. Ursprung and Ludger Wößmann, Education Policy and Equality of Opportunity, August 2005

1519 David S. Evans and Michael A. Salinger, Curing Sinus Headaches and Tying Law: An Empirical Analysis of Bundling Decongestants and Pain Relievers, August 2005

1520 Michel Beine, Paul De Grauwe and Marianna Grimaldi, The Impact of FX Central Bank Intervention in a Noise Trading Framework, August 2005

1521 Volker Meier and Matthias Wrede, Pension, Fertility, and Education, August 2005

1522 Saku Aura and Thomas Davidoff, Optimal Commodity Taxation when Land and Structures must be Taxed at the Same Rate, August 2005

1523 Andreas Haufler and Søren Bo Nielsen, Merger Policy to Promote ‘Global Players’? A Simple Model, August 2005

1524 Frederick van der Ploeg, The Making of Cultural Policy: A European Perspective, August 2005

1525 Alexander Kemnitz, Can Immigrant Employment Alleviate the Demographic Burden? The Role of Union Centralization, August 2005