



David Card and Alan Krueger Received IZA Prize in Labor Economics 2006 Official Award Ceremony in Berlin

This year's IZA Prize in Labor Economics was presented by IZA President *Klaus Zumwinkel* (CEO, Deutsche Post World Net) to the American labor economists *David Card* (University of California, Berkeley) and *Alan Krueger* (Princeton University) during a festive award ceremony in Berlin on November 8, 2006. The award, which involves a cash prize of 50,000 euros, is considered one of the most prestigious international science awards in economics. The 2006 prize honors the outstanding contributions of Card and Krueger to policy-oriented empirical labor market research, particularly in the field of education and training. Based on nominations by IZA Research Fellows, the decision by the IZA Prize Committee has been widely applauded by the community of labor economists since it was announced in October. The Prize Committee includes Nobel laureates *Joseph Stiglitz* (Columbia University, New York) and *George Akerlof* (University of California, Berkeley) and further consists of *Richard Portes* (London Business School), *Armin Falk* (IZA Director of Research) and *Klaus F. Zimmermann* (IZA Director).

In front of an audience of invited guests from around the world, Zimmermann explained in his laudation how the work by the prize-winners has shaped modern research in labor economics: "Card and Krueger have stimulated labor economics for many years with their original research approaches, the practical relevance of their results, and their remarkable use of natural experiments to test common hypotheses. Their findings are highly relevant for labor market policy in Germany, particularly with regard to raising school quality." Zimmermann referred to their impact on the work of others as "unique" and compared them to the past winners of the IZA Prize, *Jacob Mincer* (2002), *Orley Ashenfelter* (2003), *Edward Lazear* (2004) and *Dale Mortensen/Christopher Pissarides* (2005).



K. Zumwinkel, A. Krueger, D. Card, K. Zimmermann

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Positive Impact of Immigration on Public Budgets

Although Germany lacks a consistent immigration and integration policy, a recent IZA study finds that the impact of immigrants on public budgets and the welfare system is positive. Based on 2004 data from the Socio-Economic Panel (SOEP), the study calculates the net balance of taxes and social security contributions paid and public transfers received by immigrants with foreign citizenship living in Germany.

The results show that immigrants on average paid 2,000 euros more in taxes and contributions during the year than they received in government transfers. The findings are equally relevant in the long-term perspective. Accounting for the lower age structure of immigrants, the calculation shows nonetheless that each foreigner living in Germany will have paid a positive net balance of about 11,600 euros into the public budgets by the end of their lives. Given a foreign population of currently about 7.2 million, the total surplus amounts to 84 billion euros.

This positive effect is generated under the current immigration policy, which is still inadequate from an economic point of view. If Germany were to apply a quota or point system for the selection of immigrants and improve the labor market integration of foreigners, the economic gains from migration would be even larger. "The IZA calculations send a clear signal to policymakers that the German immigration act should be complemented by a selection mechanism in order to increase the benefits of migration," commented IZA Director *Klaus F. Zimmermann* on the policy implications of the new findings.

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Award Statement of the IZA Prize Committee

The IZA Prize in Labor Economics 2006 is awarded to the outstanding and highly productive U.S. labor economists *David Card* (University of California, Berkeley) and *Alan Krueger* (Princeton University). Their work has crucially shaped the research agenda in labor economics and has certainly raised the standards for empirical research in applied economics. Their studies are directed towards the analysis of policy-relevant issues, and their research findings continue to have a substantial impact on the debate of labor market policy and education policy around the globe. David Card and Alan Krueger have become a leading authority with regard to policy advice based on sound econometric research.

Card and Krueger share an instinct for finding the right kind of exogenous variation and collecting the relevant data from which reliable inferences can be drawn. With a remarkable sense for using the appropriate dose of sophisticated econometric techniques, they have unearthed intriguing facts from existing data or from appropriate natural experiments that would have otherwise remained in obscurity. Many of their findings spurred substantial debates and inspired much subsequent work. Often challenging the conventional views of the profession, their surprising new results were at times received with skepticism and critical distance. But David Card and Alan Krueger convinced many skeptics by their in-depth analyses that are based on carefully designed research strategies and reflect their expert knowledge on the details of the data they use. Card and Krueger's work abounds with key methodological contributions on instrumental variable estimation, measurement error, regression-discontinuity methods, or the use of "natural experiments." Card and Krueger have greatly promoted the quasi-experimental approach to causal modeling as a transparent scientific methodology. Their studies, which contain several brilliant examples of "natural experiments," have fueled the quest for and the use of natural experiments in a large economics literature that followed.

Their research centers on estimating the effects of schooling and institutional factors on labor market outcomes. Jointly, individually, and with various co-authors, they have made several seminal contributions that have greatly advanced our understanding of the factors that determine the wage structure and shape inequality. Krueger's article with Lawrence Summers on inter-industry wage differentials, which is still one of the most widely cited works in labor economics, indicated that part of the observed inter-industry wage differentials reflects noncompetitive rents. Since the start of his career, Alan Krueger has recognized the importance of institutions such as unions, work councils, and implicit contracts for labor market outcomes and argued that employment relationships are too complex to be adequately described in the traditional competitive framework. Similarly, David Card's work on unions and collective bargaining highlights the impact of institutions on the determination of wages, employment, and consequently inequality. He showed, for example, that unions compress wage distributions by raising wages of workers with lower observed skills disproportionately, carefully taking account of measurement error in reported union status and the possibility that better workers select into unionized jobs. In other influential work on the effects of immigration on wages and employment of natives, Card showed that immigration has virtually no adverse effects on the labor market prospects of less-skilled workers. In a famous study, Card creatively exploits a sudden large-scale immigration of Cubans to Miami as a natural experiment. The influx of Cubans known as the Mariel boat lift increased supply in the Miami labor market by about 7 percent between May and September 1980 but was unrelated to local labor market conditions. By comparing labor market outcomes in Miami to those of various other similar cities, Card answers the counterfactual question of how wages and unemployment would have been in the Miami labor market if the immigrants had not come.

David Card and Alan Krueger have much advanced the human capital literature. Several other well-known studies, which Alan Krueger co-authored with various scholars, develop innovative estimation

techniques, propose novel instruments, or exploit unique data sets in order to get unbiased estimates of the returns to schooling. David Card ingeniously structured the literature by formulating a general model that sheds light on the econometric issues involved in the estimation of the returns to schooling when schooling decisions are endogenous. In earlier work he had devised an econometric methodology together with Thomas Lemieux, which makes it possible to evaluate the extent to which changes in returns to observed and unobserved skills can account for changes in wage differentials.

In a sequence of joint studies, Card and Krueger have assessed how school quality determines labor market outcomes. While the previous literature had provided ambiguous results and concluded that there is no relation between school quality and test scores, Card and Krueger shifted the discussion away from student achievement tests to labor market outcomes. Their studies have structured the way we should think about the effects of improvements in schooling quality and how we should assess its impact econometrically. Evaluating various dimensions and measures of school quality, such as student-teacher ratios, average term length, or annual teacher pay, they documented evidence for a causal positive relation between the quality of schooling and economic returns to education. They provided evidence that those who were educated in states with better school quality enjoyed higher returns to their educational investments later in their lives. Krueger's subsequent studies on the effects of class size and on the returns to attending a more selective college substantiate these results. Their work on schooling quality impressively highlights the role of human capital policy for reducing inequality.

Card and Krueger's joint work on the economics of the minimum wage reflects their originality and style of doing empirical research. It is also a prime example of their impact on the economics profession and on the political debate, as it demonstrates how their controversial research findings shook mainstream economics and instigated heated debates among economists and policymakers. As is true for most of their work, their studies on the effects of the minimum wage have inspired much subsequent research that has eventually led to a better understanding of the functioning of labor markets.

In a sequence of studies, which are collected in their book *Myth and Measurement: The New Economics of the Minimum Wage*, they assembled empirical evidence from various labor markets, different periods, and different states showing no indication that higher minimum wages – contrary to the predictions of the traditional labor market model – reduce employment in the US. In one of their most famous joint studies, they surveyed 410 fast-food restaurants in New Jersey and Pennsylvania before and after the minimum wage was raised by about 20 percent in New Jersey, but not in its neighboring state. By comparing outcomes before and after the policy change within and across states, they evaluate the effects of the minimum wage change. This excellent example of using "natural experiments" to make causal inferences illustrates the power of the quasi-experimental approach as a transparent empirical strategy in labor economics. This has inspired original data collection and the search for exogenous variation generated by natural experiments in a large economics literature that followed.

The influence of Card and Krueger's work is also felt in many other fields of economic science. Their style of doing empirical research has become a role model for research methodology across the economics profession. The IZA Prize 2006 honors the work of two scholars who have given great momentum and research spirit to the field.

George A. Akerlof (University of California, Berkeley)

Armin Falk (IZA, University of Bonn)

Richard Portes (London Business School, CEPR)

Joseph E. Stiglitz (Columbia University, New York)

Klaus F. Zimmermann (IZA, University of Bonn)



Practical Relevance

Among the key findings by Card and Krueger is the impact of education and human capital on labor market outcomes. They showed that school quality has a substantial impact on future earnings. Accordingly, educational policy should focus more strongly on raising the quality of schooling. This is particularly true for Germany in light of the recent PISA student assessment results. “We must stimulate competition between schools and provide more incentives for better performance,” said Zimmermann.

Other work by the prize-winners analyzes the impact of labor market institutions,

such as unions, on the wage structure. They found, for example, that lower unionization rates and the associated loss of union bargaining power led to significantly higher wage dispersion.

David Card also studied the economic consequences of immigration. Using data from a natural experiment, he showed that immigration has virtually no adverse effects on the employment of natives. On the contrary, a system of managed immigration can have large positive effects on the economy and the labor market of the receiving country.

In addition, Card and Krueger have used another natural experiment to show that

a higher minimum wage does not necessarily raise unemployment. As these findings from the United States cannot easily be applied to other countries, such as Germany, they remain heavily debated among economists.

These and other thought-provoking studies by the IZA laureates have shifted the focus of international labor market research towards policy-related issues. At the same time, they have shown that high-quality basic research is a prerequisite for sound policymaking.

Prior to the award ceremony, the IZA Prize Conference was held in honor of Card and Krueger. Among the renowned participants of the conference was last year's laureate *Dale Mortensen* (Northwestern University). Representing the invited speaker, German Vice Chancellor and Federal Minister of Labor and Social Affairs *Franz Müntefering*, his Undersecretary *Franz Thönnies* gave a speech on “Labor Policy – Strengthening Participation and Trust in Social Security.” He praised the topical relevance of the IZA prize-winners' work as well as the contributions of IZA to policy advice on labor market issues in Germany.

The IZA Prize in Labor Economics was established to provide an incentive for high-quality international labor market research. The importance of the award is reflected by the decision of German President *Horst Köhler* to give a speech at next year's presentation of the 6th IZA Prize.



IZA Prize Conference, November 7–8, 2006

Cost-Benefit Analysis of Immigration: Foreigners Living in Germany Are Net Contributors to Public Budgets

The current debate on immigration and integration in Germany is mainly about curbing immigration and questions of homeland security. Other aspects are language acquisition of immigrants and improved social integration through appropriate integration courses. At the same time, persistently high unemployment rates are used as an argument to support the decision not to include an active selection of migrants through a points system and annual quotas in the first German Immigration Act, which has been in force since January 2005. The July 2006 report by the federal government that evaluates the recent experiences with the new law does not see any reason to adopt a more economically motivated immigration policy. Even the recently granted right to abode for foreigners without permanent residence status remains quite restrictive and depends on whether employment can be found in the near future.

Against this background, the assessment of the fiscal dimension of immigration and integration is often narrowed down to the issue of preventing “immigration into the social systems.” In this view, the difficult labor market situation of immigrants and their relatives is merely thought of as a financial burden borne by the public. The fact that the majority of immigrants living in Germany is well integrated into the labor market and thus contributes substantially to the budget is often disregarded.

This widespread misperception has prompted IZA to present a cost-benefit balance of immigration to Germany. Based on 2004 data, the study arrives at the unambiguous result that immigration into Germany generates a strongly positive economic effect, although the government has largely neglected the active control and an adequate labor market integration of immigrants (*Holger Bonin, Der Finanzierungsbeitrag der Ausländer zu den deutschen Staatsfinanzen: Eine Bilanz für 2004, IZA Discussion Paper No. 2444*).

Using data from the Socio-Economic Panel (SOEP), the study analyzes the balance of

transfer receipt, taxes and social security contributions by foreign citizens living in Germany in the year 2004. According to the IZA computations, the average immigrant living in Germany has paid approximately 2,000 euros more into social security funds and the treasury than he or she has received from either of these sources in the same year. In a long-term perspective, the positive contribution of immigrants also plays an important role for the sustainability of the welfare state. Taking the favorable age structure of immigrants versus natives into account, the generational balance conducted in the IZA study shows that each foreigner living in Germany today will have paid an average surplus of about 11,600 euros to the public by the end of their lives. With currently 7.2 million foreigners in Germany, this surplus amounts to 84 billion euros.

The positive immigration effect has been achieved under an immigration policy that is still grossly insufficient from an economic point of view. If Germany were to actively select immigrants by means of a points system while more efforts were to be made to integrate immigrants in the labor market, this effect would be even larger.

This balance is based on age-specific profiles that have been estimated using representative individual data from the SOEP. A categorization into age groups is necessary because current age structures differ considerably between German and immigrant populations – and some of the cash flows between individuals and the state strongly depend on age. Among the foreign population, a larger percentage is of prime working age (20 to 60 years) than among natives. Since the contribution balance is positive for this group while it is negative for younger and older people, the aggregate balance tends to overstate the positive contribution by foreigners. Of course, the foreign population is also subject to demographic aging and will see a larger share of pensioners in the future. But assuming moderate future economic growth, the balance will nonetheless remain positive for foreigners living in Germany.

Conducted annually since 1984, the SOEP is a survey of German natives, foreigners and immigrants in western and eastern Germany. In the survey year 2004, the sample comprised nearly 12,000 households with over 22,000 individuals. On the basis of

Government Revenues and Expenditures in 2004

Revenues		Expenditures	
Wage Taxes		Social Security	
wage and income tax including solidarity surcharge	197471	pension insurance	213920
		health insurance	139140
Capital Taxes		unemployment insurance	47270
real estate tax	14610	long-term care insurance	16510
capital tax	51969	accident insurance	9690
property tax	4363	Transfers	
Indirect Taxes		maternity benefits	3070
value added tax 7%	7938	welfare benefits	26351
value added tax 16% and other consumption taxes	145042	housing benefits	5090
petroleum tax	41710	youth benefits	18536
motor vehicle tax	7739	child benefits	34600
insurance tax	8740	education and training benefits	1450
tobacco tax	13760	Education	
Employee Contributions		primary and lower secondary schools	17969
pension insurance	147370	higher secondary school	10342
health and long-term care insurance	118130	universities (not including hospitals)	17656
unemployment insurance	48790	vocational training academies	5744
accident insurance	10880	kindergarten	11431
Pensioner Contributions		language and integration courses	200
health and long-term care insurance	17070		
Deficit	81200	Interest Payments	62910
Other Revenues	91348	Other Expenditures	366251
Total	1008130	Total	1008130

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the SOEP, age profiles can be generated according to nationality for 33 different taxes and transfers. Moreover, the age profiles of Germans and foreigners were additionally weighted by a proportional factor to account for the population shares of these groups in order to arrive at the precise revenue and expenditure levels based on the 2004 federal budget (◀ Table).

Structural Differences between Contributions by Germans and Foreigners

The contribution to public budgets results from the sum of age-specific tax and social security contribution payments per capita minus average transfer receipt (▼ Figure). Irrespective of nationality, a characteristic age pattern evolves: The funding contributions by children and teenagers are negative. This group pays only few (excise) taxes but receives large transfer payments. Apart from relatively high healthcare costs, especially during infancy, these are mainly due to free education and child allowances.

Upon entering working life, the funding contribution becomes positive. During employment, the surplus of individual tax and contribution payments over transfer receipt basically resembles the structure of average earned income. The profile particularly reflects the development of productivity during the working life and the employment rate. Accordingly, the largest net contributions are made between ages 40 and 45.

For individuals aged 50 and older, funding contributions decrease considerably because people are more prone to unem-

ployment or retirement and thus pay fewer taxes and social security contributions on earned income. At retirement age, the average individual becomes a net recipient of transfer payments. Tax revenues are rather low, and since pensions are barely taxed, most contributions are derived from payments to health and long-term care insurance or from taxes on capital. Excise taxes play a role as well, but consumption tends to decrease with age. At the same time, retirees receive the largest transfer payments. In addition to pension payments, health and long-term care insurance benefits are the most important items.

When comparing the contributions by Germans and foreigners, relatively small differences are found for children, teenagers and the elderly. Transfer receipt is slightly lower for foreign infants and slightly higher for foreign children and teenagers relative to their German counterparts. The small aggregate differences, however, tend to disguise some remarkable structural disparities. While foreign children on average receive more child allowances and welfare benefits, they cause lower healthcare costs due to fewer doctor visits, and lower education expenditures as they predominantly attend school types with lower per-student costs.

The net funding contribution turns negative at a slightly earlier stage for foreigners than for Germans, which is mainly caused by the higher unemployment rate among older foreigners. With further increasing age, net transfer receipt then varies between foreigners and Germans, with rates slightly

below or above the other group. As in the case of children, there are some structural differences behind these similar levels. Pension payments to foreigners are – due to lower wages and more frequently interrupted employment histories – significantly lower than to Germans. Fewer doctor visits by younger foreign retirees also play a role. On the other hand, this difference is offset by lower tax payments made by foreign retirees. Due to lower old-age income, fewer consumption taxes are paid. Lower asset holdings among foreigners also generate less capital tax revenue.

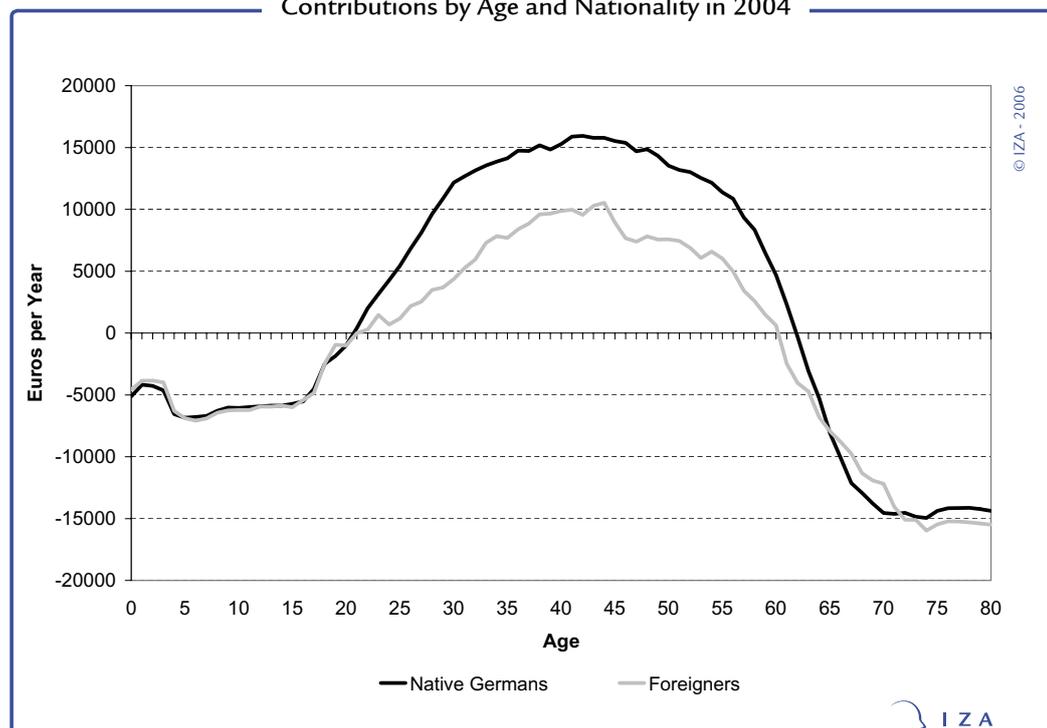
The net contribution levels for Germans and foreigners differ considerably during gainful employment. The increase in funding contributions during early working life is much slower for foreigners than for Germans. This can be attributed to a more difficult career entry and higher youth unemployment among foreigners. At prime working age, the average funding contribution of foreigners is approximately 10,000 euros per year – about one-third below that of Germans. This is due to the wage disadvantage and the lower employment rate among this population group. Apart from low asset holdings, these are the main reasons why the funding contributions by foreigners lag relatively far behind during the second half of their working lives.

Current Funding Contributions: Clearly Positive for Foreigners

In order to determine the current funding contributions by the foreign and the German population to the public households, the payment profiles are weighted by the corresponding age structure. The foreign population is at an advantage since only 9.1 percent of foreigners are currently over 60 and thus net recipients of public benefits. In contrast, the share of this population group is 22.0 percent for Germans. At the same time, the share of the population group at working age (20 to 60 years), during which net contributions are positive, is considerably larger for foreigners (68.2 percent) than for Germans (55.9 percent).

This structural age effect overstates the funding contributions by the foreign population. Although foreigners (7,400 euros) pay about 32 percent less in taxes per capita

Contributions by Age and Nationality in 2004



than Germans (10,800 euros), they currently also receive less in transfer payments due to their lower share of pensioners. Public transfer payments to the foreign population amount to 5,500 per capita while Germans receive 7,800 euros. The net balance of taxes and contributions versus transfer receipt thus stands at about 2,000 euros per capita for foreigners and 3,400 euros for Germans. Though this balance is considerably smaller for foreigners, it is definitely positive.

Analyzing the different forms of government revenue and expenditure per capita (▼ Table) creates an ambiguous picture: On the revenue side, the foreign population ranks behind the German population in all taxes and contributions – with the exception of the tobacco tax. The smallest difference is found for employee contributions to social security and the reduced VAT. For the income tax and the remaining indirect taxes, per capita payments by foreigners are 30–40 percent lower than those made by Germans. There is a massive discrepancy in capital tax revenue. Due to low assets, capital tax payments by foreigners barely amount to 20–30 percent of per capita payments by Germans.

The expenditure side, in contrast, calls for a more detailed analysis. On the one hand, higher unemployment among foreigners leads to substantially higher per capita ex-

penditure on unemployment benefits and welfare. On the other hand, foreigners currently benefit less than Germans from the other social security insurances. This is primarily due to the favorable age structure of the foreign population in terms of pension funds, healthcare, and long-term care. However, even in the same age group social security benefits tend to be lower for foreigners, partly because pension payments are based on the individual contribution history. In healthcare, fewer doctor visits and shorter hospital stays by foreigners (except for the oldest age group) play a role. Compared to Germans, foreigners receive lower per capita payments in housing and maternity benefits, as well as fewer education subsidies. The comparatively low incidence of claims may be due to insufficient information about the complicated structure of these benefit entitlements.

As a consequence of higher birth rates, foreigners receive more child allowance. In the field of education, the gap reflects the different educational careers of foreigners and Germans. Surprisingly, however, differences in the expenditure for university education are rather small. Again, the structural age effect offsets the lower college enrolment rate among foreigners: While 22.3 percent of the foreign population are in the relevant age group of 20–30, only 12.4 percent of Germans are in the same group.

Expected Future Contributions: Balance Remains Positive

As has been shown above, the positive funding contributions by foreigners at present are partly a result of their age structure. Given that individual funding contributions are related to age, it is foreseeable that average contributions will decrease as more foreigners reach retirement age.

The average expected future contribution over a lifetime reflects the amount that an average individual of a certain age will have paid until death, provided that age-specific survival rates and fiscal parameters remain constant (accounting for a constant growth factor, ► Figure).

A positive average expected contribution balance means that tax and contribution payments over the remaining lifecycle of a representative member of an age cohort are higher than the transfer payments received from public funds. Since only present and future contributions are counted while past payments are excluded, a typical age pattern evolves. In the beginning, average expected contributions continuously rise with each additional year since child allowances and education subsidies are phased out while the discounting effect of taxes and contributions paid during the working life becomes weaker.

Government Revenues and Expenditures Per Capita in 2004

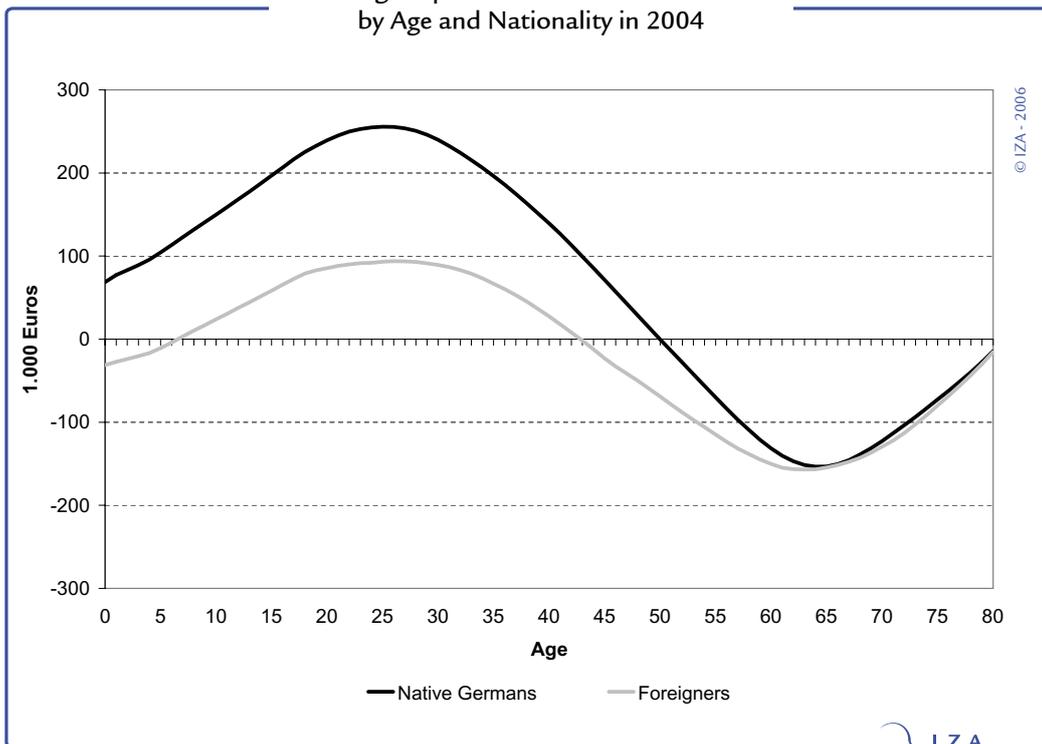
Revenues			Expenditures		
	Germans	Foreigners	Expenditures	Germans	Foreigners
Wage Taxes			Social Security		
wage and income tax including solidarity surcharge	2582	1532	pension insurance	2876	863
			health insurance	1835	921
Capital Taxes			unemployment insurance	519	1361
real estate tax	197	53	long-term care insurance	257	155
capital tax	705	143	accident insurance	125	92
property tax	59	14	Transfers		
Indirect Taxes			maternity benefits	40	21
value added tax 7%	101	85	welfare benefits	275	465
value added tax 16% and other consumption taxes	1892	1166	housing benefits	65	59
petroleum tax	541	370	youth benefits	233	234
motor vehicle tax	100	67	child benefits	434	453
insurance tax	115	56	education and training benefits	19	7
tobacco tax	171	200	Education		
Employee Contributions			primary and lower secondary schools	221	278
pension insurance	1881	1600	higher secondary school	132	110
health and long-term care insurance	1495	1409	universities (not including hospitals)	223	214
unemployment insurance	623	524	vocational training academies	73	62
accident insurance	138	125	kindergarten	145	138
Pensioner Contributions			language and integration courses	0	28
health and long-term care insurance	230	69			
Total	10831	7414	Total	7473	5460

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At an age at which individuals have on average finished their education and taken up employment, this process starts to reverse. The declining progression of the average expected future contributions until retirement age can be explained by the decreasing duration of the remaining working life. With growing age, the amount of income taxes and contributions to be paid becomes smaller while the discounting effect of transfer payments received during retirement decreases. Past the age at which the largest share of an age cohort has retired, the progression again reverses. The cash value of the remaining net transfer benefits continuously decreases due to the falling average future life expectancy.

As expected, the fiscal balance of the foreign population in Germany is significantly less favorable if an anticipatory approach is

Average Expected Future Contributions
by Age and Nationality in 2004



chosen that includes the future aging process (▲ Figure). Among the foreign population there are fewer age groups with positive expected future contributions than among the German population. Foreigners born in 2004 will receive about 31,000 euros more in present-value benefits over their lifecycle than they pay in contributions and taxes under current conditions. In contrast, new-born Germans will be net taxpayers: Over the course of their lives they will pay an average of 69,000 euros more in taxes and contributions than they will receive in benefits. Positive future contributions are only expected for foreigners aged 7–42. The peak is at age 26, when the remaining contributions over the lifecycle amount to a present value of almost 94,000 euros. Germans of the same age, however, will contribute a substantially higher amount of 255,000 euros. At retirement age, net transfer receipt is almost the same for both foreigners and Germans.

The above figures are averages for each member of a specific age group. In order to estimate the aggregate future contributions of foreigners, the size of each age group must be taken into account. As with the current contributions, a structural age effect overstates the relative position of foreigners. The share of the age groups with positive expected future contributions in the foreign population is 63.4 percent. This is only marginally less than for Germans (65.5 percent) although their age groups 0–6 and 43–50 also have positive contributions. But the age cohorts with the largest future contributions are

overrepresented among foreigners: While 22.3 percent of foreigners are 20–30 years old, this is true for only 12.4 percent of Germans.

If the age-specific future contributions are weighted according to current cohort sizes, foreigners' average future contributions to public budgets are positive. The cash value of taxes and contributions per capita to be paid by the current population over the lifetime exceeds future transfer receipt by 11,600 euros. This amount is significantly smaller than the future per capita contributions by Germans (68,200 euros). Nonetheless, with 7.2 million foreigners currently living in Germany, this amounts to a long-term budget surplus with a present value of 84 billion euros.

Effective Immigration and Integration Policy Would Lead to Even Better Results

In sum, the net balance of foreigners living in Germany is positive. Despite major difficulties that impede career entry and lead to relatively high unemployment benefit and welfare receipt, foreigners are by no means a burden on the public budget.

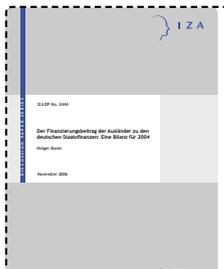
With a net current balance of an estimated 2,000 euros per capita, taxes and contributions paid by Germany's 7.2 million foreigners today exceed transfers payments by 14.1 billion eu-

ros. Even considering that this surplus will decline in coming years due to demographic aging also among the foreign population, the net balance remains positive. The present value of average future contributions at 11,600 euros per capita translates into some 84 billion euros for the entire foreign population.

It is safe to assume that this amount represents the lower bound of potential future contributions by foreigners. Since Germany's current fiscal policy is not sustainable, today's tax and contribution rates will not be sufficient in the long run to keep federal expenditures at the current level and to service the public debt. Individual net contributions will therefore inevitably rise if pension levels are lowered or health insurance con-

tributions are raised. This applies to both foreigners and German natives. Still, even under the status quo, the estimated surplus generated by foreigners is large enough to cover any public expenses for foreigners that may be made in a form other than transfer payments and are therefore not included in these estimates.

Considering that this positive immigration effect has been achieved under an immigration policy which is grossly insufficient from an economic point of view, the effect could be significantly larger if Germany adopted an active selection of immigrants through a points system. Better labor market integration of immigrants would also reduce transfer dependency. Given the favorable age structure of foreigners, their average contributions could then even exceed those of the German population. This simple calculation shows that government and society are well advised to invest in the integration of foreigners in the labor market, particularly through a stronger focus on education. Ultimately, however, success will depend on an active control of immigration based on economic criteria.



Holger Bonin

**Der Finanzierungsbeitrag der Ausländer zu den deutschen Staatsfinanzen:
Eine Bilanz für 2004**

IZA Discussion Paper No. 2444
▶ [ftp.iza.org/dps/dp2444.pdf](ftp://ftp.iza.org/dps/dp2444.pdf)

The Role of Services in Europe and the United States

Over recent decades most advanced economies have experienced a substantial change in their occupational structure, namely a transition from an industry-dominated to a services-dominated employment structure. By the beginning of 2000 in several OECD countries about three quarters of employees were working in services. Today most new jobs are created in this sector. Both Europe and the US have experienced a secular increase in the share of service-related jobs in total employment, as well as a reduction in the number of jobs in industry and agriculture. While convergence of the service employment share towards the US level has been recorded in all European countries, significant differentials still persist. Understanding the main factors driving the gap relative to the US and across EU countries is one of the focal concerns of policy makers and a key point in achieving higher employment levels in Europe.

The impact of institutions on aggregate unemployment is part of an ongoing debate on the causes of the relatively poor performance of European labor markets as compared with the US. Against this background, a current IZA Discussion Paper by *Antonello D'Agostino* (Central Bank and Financial Service Authority of Ireland), *Roberta Serafini* (European Central Bank and ISAE) and *Melanie Ward* (European Central Bank and IZA) investigates the determinants of the service sector employment share in the EU-15. The authors analyze possible determinants of the gap between the European and the US unemployment share and argue that the institutional framework in Europe has played a major role in hindering the flow of workers from manufacturing into the service sector.

Following previous empirical studies, the authors identify a core set of variables which have an impact on employment and services, including GDP per capita and the productivity gap between manufacturing and services. A closer look at these macroeconomic determinants reveals that the differential in GDP per capita and in government consumption both contribute strongly and positively to the US-European employment share gap in the service sector. This result highlights the importance of economic growth for job creation and supports the hypothesis that the increase in per capita income and public consumption levels in Europe relative to the US over the recent decade have contributed towards decreasing the service employment share gap between the two continents. The US-European gap in productivity between manufacturing and services is also found to be a significant determinant of the employ-

ment share gap, although less important in terms of its magnitude. This indicates that in recent years the falling relative productivity in the European service sector versus the US has also contributed to closing the gap between US and European service sector employment shares.

Labor Market Institutions Widen the Service Sector Employment Gap

However, in order to explain the differences in service employment shares across countries at almost similar income levels and productivity growth rates, the role of other potentially relevant determinants must be analyzed. Therefore, the authors focus on the possible role played by labor market institutions such as union activity and employment protection legislation in affecting the service sector employment share. Two different dimensions of union activity – the degree of wage bargaining centralization and union density – are analyzed. Results on the impact of the first reveal that employment in services is highest in fully centralized or decentralized systems. This supports suggestions that highly centralized or decentralized unions may be more concerned about issues of national inflation and competitiveness or of labor productivity and firm competitiveness, which may result in more restrained wage changes in both cases. Regarding the degree of union density, the authors identify a negative effect of the rate of national union density on the service sector employment share. This result, which is most pronounced for the hotel and restaurant industries, supports the suggestion that wage compression introduced by unions in Europe has led to job cuts at the lower end of the skill distribution within European service sectors.

Furthermore, relatively strict employment protection legislation (EPL) may have hindered the reallocation of employment and thus had a significant impact on the development of the service sector employment share in Europe. In fact, EPL tends to reduce inflows into unemployment, thus lowering short-term unemployment. But at the same time it increases long-term unemployment due to more reluctant hiring activity and sets insufficient incentives for employment adjustment in response to cyclical and structural changes. The authors show that relatively strict national EPL on regular employment contracts

has a significantly negative effect on European service sector employment in such sectors as finance, insurance, real estate, and education.

European Labor Supply Lacks Flexibility

Finally, one may argue that a reason for Europe's inability to absorb workers released from agriculture and industry could be the insufficient flexibility of labor supply in Europe, particularly in terms of its ability to match the skills of the workforce with the skill requirements of the service sector in response to the ongoing sectoral shift. This hypothesis is captured by a "mismatch indicator," which is found to have a significant impact on the aggregate employment share. Furthermore, the skill level of the labor force – here proxied by the average years of schooling – has a positive and significant impact on the total employment share, particularly in producer services. On the other hand, neither mismatch nor educational attainment seem to play a role in affecting the employment share in the personal services sector, which generates mainly low-skilled and low-paid jobs.

In sum, relative developments over the last decade in per capita income and productivity have played an important role in closing the gap between European and US employment shares for the aggregate service sector. Furthermore, institutional barriers such as the human capital content of the workforce (as measured by the level of educational attainment), the degree of unionization and employment protection legislation on regular contracts seem to be the main sources of the gap in the service sector employment share. Policies implemented in these areas over the last decade as part of the European Employment Strategy seem to have helped the European employment share catch up with the US level. However, the dramatically lower levels of employment protection legislation and unionization in the US relative to Europe, in combination with the low levels of educational attainment in some European countries, seem to be the main factors behind the persistence of this gap.

Antonello D'Agostino,
Roberta Serafini, Melanie Ward

Sectoral Explanations of Employment in Europe: The Role of Services

IZA Discussion Paper No. 2257
▶ ftp.iza.org/dps/dp2257.pdf



Capacity Building: African Doctoral Researchers Visit at IZA

The second part of the IZA Capacity Building Project in Sub-Saharan countries (see IZA Compact October 2006) sponsored by the World Bank and the African Economic Research Consortium (AERC) resulted in the selection of two economics doctoral students to spend six weeks at IZA to work with resident researchers on their dissertations. *Miracle Ntuli* (University of Cape Town, South Africa) and *Benjamin Fomba Kamga* (University of Yaounde II, Cameroon) were selected by AERC for their stay at IZA from November 1 until December 15, 2006.

Both young researchers already attended the Labor Economics course taught by IZA staff members in June 2006 in Nairobi.

The research visit provided the students with the time and space to make significant progress on their dissertations and to get critical feedback on their work from IZA research associates. Both students were recognized at the World Bank Workshop “Job Creation in Africa” held in Frankfurt on November 27–28, 2006. *Robert Holzmann* (World Bank) and IZA Director *Klaus F. Zimmermann* presented the two doctoral students with cer-

tificates acknowledging their research visit to IZA.



Holzmann, Schmitt (GTZ), Zimmermann, Fomba Kamga, Ntuli, Ndungu (AERC)

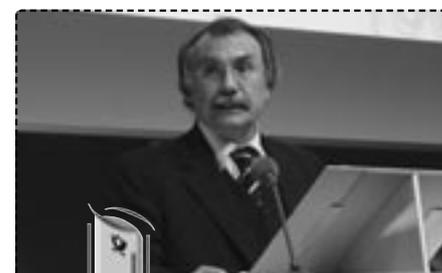
Jürgen Borchert at IZA Tower Talk: Families Grossly Disadvantaged by German Tax Policy

Jürgen Borchert, judge at the Hessian Social Court in Darmstadt, was the invited speaker at the IZA Tower Talk on October 24, 2006. In the corporate headquarters of IZA’s sponsor Deutsche Post World Net in Bonn, the family policy expert spoke on the topic “Poverty for Everyone? How Family Policy Undermines Freedom and Prosperity.”

According to Borchert, parents are systematically disadvantaged by the German tax and social security systems. He called it “socially unfair” that working parents carry a double burden: While they contribute to pension funds to the same extent as the childless, they additionally bear the substantial costs of raising children, upon which the childless depend to finance their old-age pensions. Borchert showed that 80

percent of all public revenues place an undue burden on families, thus causing their “economic suffocation.” This imbalance would be aggravated by an increasing focus on indirect taxation since families are more strongly affected by excise taxes than singles and childless couples.

Borchert argued that the current fiscal redistribution to assist families was insufficient and could be avoided altogether if taxes and social security contributions were levied according to the individual ability to pay, which means taking the number of children into account. Instead, Borchert claimed, the government “encourages” childlessness – with detrimental consequences for Germany as a country that relies most of all on its human capital.



IZA Tower Talk

Jürgen Borchert is a judge at the Hessian Social Court in Darmstadt. A specialist in issues relating to social and family law, he is one of the most avid proponents of more fairness in German family policy, particularly with regard to taxation and the social security system.

In order to increase the political influence of families, Borchert advocated the principle of family suffrage, which would give parents an additional vote for their under-age children.

Bonn Graduate School Selected for Funding by the “Excellence Initiative”

The Bonn Graduate School of Economics, founded in 1998 with support from Deutsche Post World Net, has been selected as one of 18 graduate schools in Germany that will receive funding under the “Excellence Initiative” by the Federal Minis-

try of Education and the German Research Foundation (DFG). IZA cooperates closely with the Graduate School by organizing joint research seminars, offering courses in labor economics and behavioral economics, and hosting several Ph.D. students as

Resident Research Affiliates. “This decision underscores the high quality of the doctoral program in economics at the University of Bonn,” said IZA Research Director *Armin Falk*.

Forthcoming IZA Conferences

April 23 – 29, 2007:	10th IZA European Summer School in Labor Economics	Deadline: Feb. 01, 2007	Buch am Ammersee
May 21 – 22, 2007:	Fourth IZA Annual Migration Meeting (AM ²)	Deadline: Feb. 15, 2007	IZA, Bonn
May 25 – 26, 2007:	IZA Workshop: Behavioral and Organizational Economics	Deadline: Jan. 29, 2007	IZA, Bonn
May 30 – June 02, 2007:	IZA Topic Week: Nonmarket Time in Economics		IZA, Bonn
June 07, 2007:	IZA Workshop: Child Labor in Developing Countries	Deadline: Feb. 05, 2007	IZA, Bonn
June 08–09, 2007:	IZA Workshop: Heterogeneity in Micro Econometric Models	Deadline: Jan. 31, 2007	IZA, Bonn
June 08–09, 2007:	IZA/World Bank Conference on Employment and Development	Deadline: Jan. 31, 2007	Bonn
June 21–24, 2007:	Sixth IZA/SOLE Transatlantic Meeting of Labor Economists	Deadline: Jan. 26, 2007	Buch am Ammersee



Employee Profit-Sharing – The Silver Bullet?

Increased profit-sharing by employees is often viewed as a socially fair means to promote growth and employment. Under Germany's ruling Grand Coalition, this idea – captured in the term *Investivlohn* ("investment wage") – has received a popularity boost of late. Virtually overnight, detailed plans to enact new legal regulations have surfaced.

Germany indeed lags somewhat behind other European nations in this respect. Only 10 percent of German companies with more than 200 employees offer stock ownership plans, while barely 18 percent provide their workforce with some form of profit-sharing. A mere cross-country comparison, however, is not entirely fair. In the United Kingdom and France, for instance, large corporations play a much stronger role, and profit-sharing or stock ownership plans are more often subsidized or legally mandated.

What can we expect from employee profit-sharing? Empirical studies find positive effects on motivation, absenteeism, job flows, innovations, profitability and productivity – particularly for small to medium-sized firms. Stronger motivation and identification with the company also improves the acceptance of necessary structural changes within the own company or the national economy as a whole. At the same time, firms with profit-sharing plans are better able to recruit and retain high-performance employees.

As an element of a flexible collective bargaining policy, employee profit-sharing plans could complement moderate wage agreements and help cushion the impact of cyclical shocks. Smaller wage increases could thus be supplemented by profit-sharing elements under favorable economic conditions

while avoiding the negative impact of larger wage increases during economic downturns.

But there is also a substantial downside to profit-sharing. Particularly under stock ownership plans, employees share the entrepreneurial risk, which may involve massive losses to the extent of bankruptcy. This is why these plans are offered primarily by larger corporations listed on the stock exchange. While their stocks are easily tradable and transferable, this is much more difficult for smaller companies. In the case of partnerships, moreover, capital-sharing plans may fail due to organizational problems or resistance by the business owners. As a result, this instrument is most difficult to implement in companies where it would be most effective in terms of employee motivation.

Nonetheless, Germany should try to promote the idea of profit-sharing or stock ownership plans. After all, these are important means of employee participation. A voluntary introduction at the company level would certainly be superior to new government subsidies or legal requirements. Capital-sharing through independent, market-based equity funds would be the simplest way of protecting employees from the entrepreneurial risk and sustaining their job mobility. This scheme would not only constitute a new pillar of old-age provision, but profit-based wage agreements would also allow employees to share in the short-term success of the company.



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