

Familienarbeitszeit — The family working-time benefits model



REPORT by Kai-Uwe Müller, Michael Neumann and Katharina Wrohlich

The “family working-time benefits model”

(*Familienarbeitszeit*):

Giving mothers more time for work,
giving fathers more time for family

595

INTERVIEW with Kai-Uwe Müller

»Costs of ›family working-time benefits model‹

(*Familienarbeitszeit*) manageable in the short term«

603

REPORT by Georg F. Camehl, Juliane F. Stahl, Pia S. Schober and C. Katharina Spieß

Does better, cheaper day care
make for more satisfied parents?

604

REPORT by Marcel Fratzscher and Simon Junker

Integrating refugees:

A long-term, worthwhile investment

612

Volume 5

November 12, 2015
ISSN 0012-1304

Publishers

Prof. Dr. Pio Baake
Prof. Dr. Tomaso Duso
Dr. Ferdinand Fichtner
Prof. Marcel Fratzscher, Ph.D.
Prof. Dr. Peter Haan
Prof. Dr. Claudia Kemfert
Dr. Kati Krähnert
Prof. Dr. Lukas Menkhoff
Prof. Karsten Neuhoff, Ph.D.
Prof. Dr. Jürgen Schupp
Prof. Dr. C. Katharina Spieß
Prof. Dr. Gert G. Wagner

Reviewer

Dr. Simone Bartsch
Dr. Johanna Storck

Editors in chief

Sylvie Ahrens-Urbaneck
Dr. Kurt Geppert

Editorial staff

Renate Bogdanovic
Sebastian Kollmann
Marie Kristin Marten
Dr. WolfPeter Schill

Translation

HLTW Übersetzungen GbR
Miranda Siegel

Layout and Composition

eScriptum GmbH & Co KG, Berlin

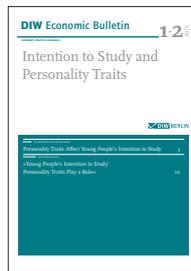
Press office

Renate Bogdanovic
Tel. +49-30-89789-249
presse@diw.de

Sale and distribution

DIW Berlin

Reprint and further distribution – including extracts – with complete reference and consignment of a specimen copy to DIW Berlin's Communication Department (kundenservice@diw.berlin) only. Printed on 100 % recycled paper.



The DIW Economic Bulletin contains selected articles and interviews from the DIW Wochenbericht in English. As the institute's flagship publication, the DIW Wochenbericht provides an independent view on the economic development in Germany and the world, addressing the media as well as leaders in politics, business and society.

The DIW Economic Bulletin is published weekly and available as a free download from DIW Berlin's website.

THE NEWSLETTER FROM THE INSTITUTE



The DIW Newsletter in English provides the latest news, publications and events from the institute every two weeks. Furthermore we offer 'New Issue Alerts' for the DIW Economic Bulletin and the DIW Roundup.

>> Subscribe to DIW Newsletter in English at: www.diw.de/newsletter_en

NEXT ISSUE OF DIW ECONOMIC BULLETIN

European climate targets achievable without nuclear power

The “family working-time benefits model” (*Familienarbeitszeit*): Giving mothers more time for work, giving fathers more time for family

By Kai-Uwe Müller, Michael Neumann and Katharina Wrohlich

Two years ago, DIW Berlin introduced “*Familienarbeitszeit*”, which offers wage replacement for families in which both partners decide to take on reduced full-time employment (working hours amounting to roughly 80 percent of a full-time job, henceforth referred to as “three-quarters employment”). This study investigates further developments of this model: Apart from a more generous wage replacement variant, the study examines a simplified variant with a lump sum benefit that serves as a sensible alternative, since it entails fewer administrative burdens and lower overall costs. The benefit’s eligibility requirements are also flexibilized: Instead of having to adhere to a fixed working-time requirement (base model), any parent whose working hours fall within the “corridor” of 28 to 32 hours per week is entitled to the benefits (corridor model). The corridor model increases the number of eligible recipients, and thus utilization rises somewhat more than it does with the base model; however, a corridor model would also come with higher costs.

Since the 2007 reform of the German parental benefits system (*Elterngeld*), German policymakers have been initiating further reforms to improve work-life balance. Nevertheless, for many families, and especially for women, reconciling child rearing with career continues to present major challenges. Various measures implemented with the goal of alleviating these difficulties—such as a law entitling all children over 12 months old to day-care, the significant expansion of day schools,¹ and the introduction of *ElterngeldPlus*—have failed to fundamentally change the situation.²

Although government-funded childcare certainly plays an important role when it comes to helping women balance career and family, it is not the only important factor: Fathers also need to be more involved in childcare and domestic duties. And this is what young families desire, according to a recent study conducted by the Allensbach Institute: If they “did not have to take anything into consideration,” nearly half (47 percent) of all parents with children under 6 years old would opt for a scenario in which both partners work equal or nearly equal hours. Twenty-eight percent of the parents surveyed indicated that the ideal working-hours setup under these conditions is one in which “both [parents work] part-time (between 15 and 34 hours).”³ But due to financial circum-

¹ See: Marcus et. al. 2013 (See https://www.diw.de/documents/publikationen/73/diw_01c.423906.de/13-27-3.pdf)

² According to a recently published study by the Thomson Reuters Foundation and the Rockefeller Foundation, the concept of reconciling career and family has been met with skepticism in Germany. Worldwide, about 47 percent of women are confident that they can have a family without harming their career. In Germany, this proportion is 21 percent, which lands the country in second-to-last place. (See: <http://www.faz.net/aktuell/wirtschaft/menschenwirtschaft/in-deutschland-sind-kind-und-karriere-kaum-vereinbar-13854493.html>)

³ Just under 40 percent of respondents explicitly favor a classic “primary breadwinner model” in which the father works far more than does the mother. See Allensbach Institute (2015): *Weichenstellungen für die Aufgabenteilung in Familie und Beruf, Untersuchungsbericht zu einer repräsentativen Befragung von Elternpaaren im Auftrag des Bundesministeriums für Familie, Senioren, Frauen und Jugend*. p.51, http://www.ifd-allensbach.de/uploads/tx_studies/Weichenstellungen.pdf.

stances or resistance from their employers, most parents are unable to make this scenario a reality.⁴

To increase the financial attractiveness of a partner-based working-time model, and to help families achieve their ideal work-life scenario, the Friedrich Ebert Foundation proposed creating a “wage replacement” benefit based on the working hours of both parents: the *Familienarbeitszeit* model.⁵ The basic idea is that families with children aged 1 to 3 receive a financial benefit as long as *both* parents are engaged in three-quarters employment. This incentivizes a scenario in which primary breadwinners (usually fathers) have more time for child rearing. Unlike unconditional cash benefits such as *Betreuungsgeld* (childcare subsidies), it avoids the negative work incentives for secondary earners (usually mothers) that can often crop up in this context.⁶ In fact, it promotes the exact opposite: The *Familienarbeitszeit* benefit is explicitly tied to a scenario in which both parents are working, and in equal amounts.

Two years ago, after being commissioned by the Friedrich Ebert Foundation and the Hans Böckler Foundation, DIW Berlin started putting plans for such a benefit into concrete terms and examining its impact on working hours as well as its associated costs. It was found that the proportion of families with both parents engaged in three-quarters employment could be doubled, from roughly one percent to two percent, through the implementation of this wage replacement.⁷ (While this benefit is also designed for single parents who are engaged in three-quarters employment, the present study only examines results for two-parent households.)

Since the publication of the initial results, the *Familienarbeitszeit* model has become a hotly debated topic in the public discourse. DIW Berlin took the suggestions generated amid this discussion and factored them into a recent study commissioned by the Friedrich Ebert Foundation in which the researchers investigated new variants of the *Familienarbeitszeit* benefit.⁸ In order to do this, the study’s authors updated and broadened the database (box), then compared a variant of

⁴ Ibid, p. 52.

⁵ For more on this, see Müller, Kai-Uwe; Michael Neumann und Katharina Wrohlich (2013): *Familienarbeitszeit – Wirkungen und Kosten einer Lohnersatzleistung bei reduzierter Vollzeitbeschäftigung*, Friedrich-Ebert-Stiftung, Forum Politik und Gesellschaft, Berlin.

⁶ See Müller, Kai-Uwe und Katharina Wrohlich (2015): “Two steps forward – one step back? Evaluating contradicting child care policies in Germany,” CESifo Economic Studies, forthcoming.

⁷ See Müller, Kai-Uwe; Michael Neumann und Katharina Wrohlich (2013), l.c.

⁸ For more on this, see: Müller, Kai-Uwe; Michael Neumann und Katharina Wrohlich (2015): *Familienarbeitszeit – Wirkungen und Kosten einer Lohnersatzleistung bei reduzierter Vollzeitbeschäftigung*. Follow-up project: *Auswirkungen einer Korridorlösung und der Modellierung von Restriktionen am Arbeitsmarkt*, Policy Advice Compact No. 105, DIW Berlin.

Box

Methodology and data basis

To examine the effects and anticipated costs of a Familienarbeitszeit financial benefit, a microsimulation model with behavioral adjustment is used. Using this approach, the changes in incomes for households and fiscal effects of not-yet-implemented reforms can be calculated. Then, based on an estimated behavior model, the changes to the labor supply of individuals that are induced by such a reform can be simulated (See also: Müller et al. 2013).

The first element of a microsimulation model is a population-representative microdata set that contains detailed information on income, working hours, and other socio-demographic characteristics. For the present application, a sample comprising data from the German Socio-Economic Panel (SOEP) and the survey „Familien in Deutschland“ (“Families in Germany”), or FiD, is used. The SOEP¹ is a wide-ranging representative longitudinal study of private German households that has been being carried out since 1984. Since 2010, the supplementary FiD² has been available. Like the SOEP, it is conducted by DIW in cooperation with TNS Infratest Sozialforschung.

The FiD is also an annual follow-up survey focusing on households with children in Germany (in particular low-income families, families with several children, single parents, and families with very young children). From the combination of SOEP and FiD, a sample with a sufficient number (about 1,900 per year) of observations on families with children between the ages of 1 and 3 is used to make inference for this group (about 1.7 million families).

The second element of the microsimulation model is a tax-transfer simulation model.³ Based on the SOEP and FiD, the disposable income for each household is simulated individually. The simulation is carried out for the status quo and the hypothetical reform alternatives. On this basis, both the changes in households’ disposable income and the reforms’ fiscal effects can initially be calculated, assuming that the individuals are not adapting their behavior due to the reform.

¹ See, in detail: Wagner, G.G.; Frick, J.R. and J. Schupp: “The German Socio-Economic Panel Study (SOEP) – Scope, Evolution and Enhancements. Schmollers Jahrbuch, 127(1): 139-169, 2007.

² See: Schröder, M.; Siegers, R. und C.K. Spieß: “Familien in Deutschland” (FiD) – Enhancing Research on Families in Germany. SOEPpapers Number 556.

³ For the details on the tax-transfer simulation model used here, see: Steiner, Viktor; Wrohlich, Katharina; Haan, Peter und Johannes Geyer (2012), l.c.

The model incorporates the essential elements of the German tax and transfer system (for example, income tax, social security contributions, and all welfare transfers) taking into account the legal status in 2015.

The third element of the microsimulation comprises a structural econometric behavioral model that reflects the employment choices of mothers and fathers as a simultaneous decision. This model is specified as a discrete choice model.⁴ It is assumed that a household (or a single parent) selects among several alternatives made up of various combinations of the partners' working hours, corresponding free time, and associated net income. Apart from non-employment, marginal employment (in this model, this category only exists for women), part-time, full-time, and full-time with overtime (in this model, this category only exists for men), two versions of the "reduced full-time" working hours (between 25 and 29 hours per week, and between 30 and 35 hours per week) can be selected.

While in the base model, only the "bigger" variant of the three-quarters employment is supported, both variants are entitled to benefits in the „corridor model," which is the Familienarbeitszeit expansion benefit under investigation here. Due to the similarity of the two variants of "reduced full-time", the choice process is modeled in two steps: First, households choose from among the different variants of reduced full-time employment. Secondly, they must then decide between the utility-maximizing variant and all other alternatives.

For the estimation of the parameters of the labor supply model, only the second stage decision is taken into account. In doing so, the hypothetical incomes for every household for all possible working-time categories are simulated. Assuming that preferences and social norms (at least in the short term) are not significantly altered by a reform, the changes in households' labor supply behavior that result from the reform-driven income changes can be predicted based on the behavioral parameters identified in the model.

The data for the present study is taken from three waves of the SOEP and FID. The sample includes 4,465 couples and 1,174 single mothers with children aged 1 to 3 (Table). This

⁴ See, for example, Van Soest, Arthur (1995): "Structural Models of Family Labor Supply: A Discrete Choice Approach." *Journal of Human Resources*, 30(1), S. 63-88.

Table

Description of the sample

| Group | Number of observations | Share in percent | Extra-polation | Share in percent |
|--------------------------------------|------------------------|------------------|----------------|------------------|
| Couples | | | | |
| Families with children aged 1 to 3 | 4,465 | 100.00 | 3,533,726 | 100.00 |
| <i>Thereof:</i> | | | | |
| Not self-employed | 4,105 | 91.94 | 3,230,180 | 91.41 |
| Non-negative income | 4,100 | 91.83 | 3,228,563 | 91.36 |
| Mother and father aged under 65 | 4,098 | 91.78 | 3,221,925 | 91.18 |
| Flexible labor supply ¹ | 3,355 | 75.14 | 2,656,495 | 75.18 |
| Individual couples | 2,064 | | | |
| Single mothers | | | | |
| Households with children aged 1 to 3 | 1,174 | 100.00 | 1,052,554 | 100.00 |
| <i>Thereof:</i> | | | | |
| Not self-employed | 1,133 | 96.51 | 1,014,268 | 96.36 |
| Non-negative income | 1,132 | 96.42 | 1,011,685 | 96.12 |
| Mother aged under 65 | 1,132 | 96.42 | 1,011,685 | 96.12 |
| Flexible labor supply ¹ | 1,001 | 85.26 | 892,406 | 84.78 |
| Individual households | 660 | | | |

¹ Not self-employed, in school or vocational training or retired.

Source: SOEP 2010, 2011, 2012; FiD 2010, 2011, 2012; own calculations.

represents more than 4.5 million families in Germany. Couples where one parent is self-employed, in job training, retired, or over 65 years old are excluded for the purpose of this simulation model. After removing these couples, 3,355 parent couples and approximately 1,001 single parents in the age group remain for the simulation.

To estimate the structural parameters, the entire sample of the behavior model's waves from 2010 to 2012 is used. Because some families appear in several years, the record is based on observations of 2,064 different pairs and 660 different single parents. The simulation of the reform-effects is based solely on data from 2012. The income variables are forward-projected to 2015 with constant growth rates, to be as close to the current situation.

Familienarbeitszeit with wage replacement to a variant of *Familienarbeitszeit* with a lump sum benefit.

Secondly, the researchers investigated to what extent a relaxation of the eligibility criteria related to working hours impacts the number of families entitled to the benefits. The current base model (the fixed working-time model, which requires that each parent work exactly 32 hours per week) was compared to a “working-time corridor model” in which both parents can be employed anywhere from 28 to 32 hours per week to be eligible for the benefits. Altogether, four different combinations were examined: either a “wage replacement” or a “lump sum” concept, plus either “a fixed working-time model” (base model) or a “working-time corridor model.”

Wage replacement vs. lump sum

One way to incentivize couples to share work and household duties is through wage replacement: Here, both parents receive a certain percentage of the difference in net income between full-time employment and three-quarters employment, provided that all eligibility requirements are met. For families in the middle and upper income ranges, this study uses a replacement ratio

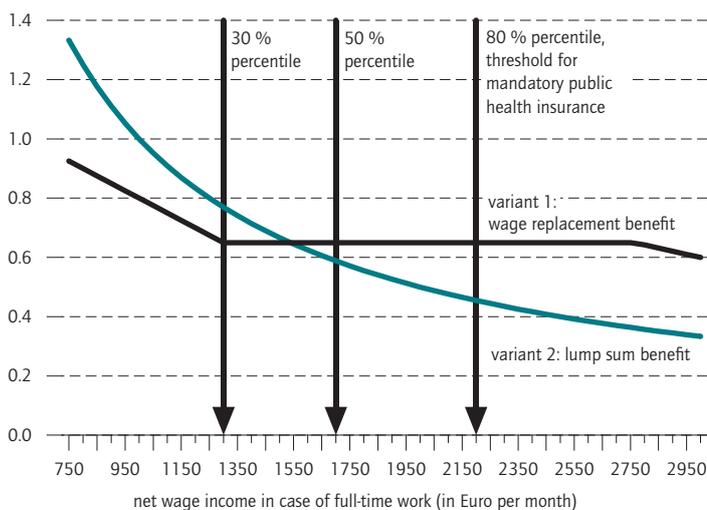
of 65 percent. For families with a net income below 1,300 euros (which corresponds, approximately, to the 30th percentile⁹), the replacement ratio increases as the income decreases, at roughly 0.05 percentage points per euro. For high incomes, the wage replacement is capped at a maximum of 360 euros per month. Due to this capping, the replacement rate begins to drop at monthly incomes of 2,750 euros and higher (Figure).

An alternative to a subsidy based on an income-related wage replacement is a subsidy based on a lump sum. This would eliminate the costs of calculating the claim. With a lump sum, the benefit amount would be fixed at 250 euros per month per parent, since this is the amount—without taking into account behavioral adaptations—after which fiscal costs similar to those of calculating a claim would arise. For low incomes, a benefit of this amount would correspond to a replacement ratio of 100 percent or more; for middle incomes, roughly 60 percent; and for high incomes (80th percentile and above), roughly 45 percent. Compared with the initial version of the benefit with variable wage replacement, benefits with a lump sum would be increasingly more generous for families in the lower income range (the bottom 40 percent of the distribution); individuals with higher incomes, however, would profit significantly less from a lump sum. Benefits with a lump sum would therefore have more of a redistributive effect.

Figure

Replacement rate as a function of net wage

Percent of wage replacement



Source: Own Calculations.

© DIW Berlin 2015

Low-income families would be better off with a lump sum benefit rather than an wage replacement benefit.

“Fixed working-time” vs. “working-time corridor”

A major factor in *Familienarbeitszeit* is the required number of hours that each parent must be working in order to qualify for a corresponding financial benefit. The required amount in the original base model¹⁰ (the “fixed working-time model” requiring roughly 32 working hours per partner) was often considered too restrictive from the perspective of workplace practices, particularly workers’ representatives. For this reason, the study at hand also evaluates an alternative model in which each parent can work any number of hours within a “working-time corridor” of 28 to 32 hours per week. The option to choose any possible combination within the corridor allows families more flexibility.

⁹ Net wages are simulated based on the SOEP with the tax-transfer simulation model STSM. See: Steiner, Viktor; Wrohlich, Katharina; Haan, Peter and Johannes Geyer (2012): “Documentation of the Tax-Benefit Microsimulation Model STSM.” Version 2012, Data Documentation 63, DIW Berlin. The gross earnings are based on figures from the Federal Employment Agency. See Federal Employment Agency (2010): *Beschäftigungsstatistik: Sozialversicherungs-pflichtige Bruttoarbeitsentgelte*. Bundesagentur für Arbeit (BA) – Statistik, Nürnberg. For these model calculations, the salaries of social insurance-obligated full-time employees are simulated.

¹⁰ See: Müller, Kai-Uwe, Michael Neumann, und Katharina Wrohlich (2013), *lc*.

A lump sum benefit leads to similar behavioral responses as wage replacement

As DIW Berlin's earlier study¹¹ demonstrated, wage replacement would cause the proportion of families in which both parents are engaged in exactly 80 percent of a full-time job to rise by 0.9 percentage points in the short term. If one initially maintains the fixed specification of working hours, higher effects arise for the more generous version of a wage replacement that is presented here: Based on the microsimulation model, the proportion of parents who use *Familienarbeitszeit* would rise by 1.8 percentage points if the benefits were paid as a wage replacement, to a total of around 2.5 percent (Table 1, columns 1 and 2). The average effect barely changes if instead of a wage replacement, a monthly lump sum of 250 Euros is paid out per month per parent (Table 2, columns 1 and 2).

The effects for individual groups differ only slightly. Families in East Germany would take greater advantage of *Familienarbeitszeit* than would families in West Germany. The benefit is clearly more attractive to families with one child than to families with several children. In addition, *Familienarbeitszeit* would be more frequently used in the upper income groups than in the lower ones, especially in the case of wage replacement. For example, two percent of families in the lowest income quartile choose this working-time model after its implementation, while among the highest income quartile, more than 3.6 percent do (Table 1, Column 1).

The differences according to income quartiles are slightly smaller in the case of the lump sum (Table 2, Column 1). Individuals with lower incomes receive a higher subsidy here, which increases the incentive for them to take advantage of *Familienarbeitszeit*. Inversely, the incentive to pursue three-quarters employment would be reduced for higher income groups. Similar average effects are therefore partly generated by different groups: In a lump sum concept, households with lower incomes would profit more strongly from the benefits.

In both design variants, the participation in the labor market and the volume of work increases in the different subgroups. Most notably, women's employment rates increase by around 0.4 percentage points, and women's total work volume increases by an average of just over one percent. In contrast, men actually work less (by just under 0.1 percent) because they are usually reducing their working hours from full-time jobs (Tables 1 and 2, columns 4 to 6)—but this is offset by the increase in women's working hours.

Working-time corridor model leads to higher use of Familienarbeitszeit

A more flexible design of the eligibility requirements regarding working hours would lead to a greater use of *Familienarbeitszeit*. If families in which both parents' respective working hours fell within the "corridor" of 28 and 32 hours a week were eligible, more couples would take advantage of the benefits: In the wage-replacement variant of this model, 3.2 percent of families would use the benefit (Table 3, column 1); in the lump sum variant, 2.9 percent families would use it (Table 4, column 1).

However, the expansion of the eligibility requirements leads to significantly more households qualifying for the benefit without having to make any changes. In addition to these so-called "windfall effects," there are also families who would opt for *Familienarbeitszeit* solely because of the more flexible requirements. These behavioral effects turn out to be lower in the working-time corridor model than they do in the fixed working-time model (base model): The proportion of couples who decide on a working-time scenario in compliance with the corridor model is 1.4 percentage points in the wage replacement variant and 1.1 percentage points in the lump sum variant. In the base model, this total increase is about 1.8 percentage points each in the wage replacement and lump sum variants (Tables 1 and 2, Column 2). However, in the case of the base model, a substantial proportion of this increase can be attributed to families switching from "similar" but non-qualifying working-time scenarios, i.e. the parents are employed between 28 to 31 hours each. To eliminate this element and better measure the behavioral effects in the case of the corridor model, the increase from more removed employment categories (fewer than 28 hours, or more than 32 hours per week) is used as a benchmark. In this instance, the behavioral effect turns out to be slightly lower in the base model than it is in both of the corridor model's variants, where it amounts to roughly 0.8 percentage points for each variant (Tables 1 and 2, Column 3).

By making the options more flexible, the number of possible recipients significantly increases, which means that more families are able to profit from the benefits. At the same time, the corridor model leads to only moderately higher behavioral effects related to the distribution of working time between both parents. Unlike it does in the base model, the overall work volume does not increase.

Manageable fiscal costs

Compared to other family-oriented benefits (such as *Elterngeld*, for example), the costs expected in the short-

11 Ibid.

Table 1

Behavioural effects¹ couples – base model, variant 1: wage replacement benefit
In percent

| | Familienarbeitszeit | | | Change of working hours | | | Change in participation | |
|-------------------|---------------------|----------------------------|--------------------------------------------------------------|-------------------------|-------|-------|-------------------------|------|
| | Share | Increase in percent points | | All | Women | Men | Women | Men |
| | Overall | Overall | From categories other than within corridor of 28 to 32 hours | | | | | |
| All couples | 2.53 | 1.79 | 0.84 | 0.18 | 1.03 | -0.14 | 0.37 | 0.03 |
| West | 2.14 | 1.64 | 0.67 | 0.19 | 1.19 | -0.11 | 0.38 | 0.02 |
| East | 4.56 | 2.58 | 1.71 | 0.09 | 0.64 | -0.28 | 0.35 | 0.06 |
| 1st quartile | 2.02 | 1.5 | 0.61 | 0.19 | 1.1 | -0.09 | 0.36 | 0.02 |
| 2nd quartile | 2.33 | 1.66 | 0.75 | 0.16 | 1.01 | -0.12 | 0.35 | 0.02 |
| 3rd quartile | 2.61 | 1.89 | 0.85 | 0.2 | 1.14 | -0.14 | 0.4 | 0.03 |
| 4th quartile | 3.64 | 2.34 | 1.38 | 0.14 | 0.84 | -0.26 | 0.38 | 0.03 |
| 1 child | 3.06 | 2.09 | 1.05 | 0.18 | 1.1 | -0.18 | 0.41 | 0.02 |
| More than 1 child | 2.24 | 1.63 | 0.72 | 0.18 | 0.99 | -0.11 | 0.35 | 0.03 |

¹ All values are statistically significant at the 1 percent level.

Source: SOEP 2010, 2011, 2012; FID 2010, 2011, 2012; own calculations.

© DIW Berlin 2015

Table 2

Behavioural effects¹ couples – base model, variant 2: lump sum benefit
In percent

| | Familienarbeitszeit | | | Change of working hours | | | Change in participation | |
|-------------------|---------------------|------------------------|--------------------------------------------------------------|-------------------------|-------|-------|-------------------------|------|
| | Share | Increase (in %-points) | | All | Women | Men | Women | Men |
| | Overall | Overall | From categories other than within corridor of 28 to 32 hours | | | | | |
| All couples | 2.56 | 1.82 | 0.84 | 0.2 | 1.1 | -0.14 | 0.41 | 0.03 |
| West | 2.12 | 1.62 | 0.62 | 0.21 | 1.22 | -0.1 | 0.4 | 0.02 |
| East | 4.84 | 2.86 | 1.97 | 0.13 | 0.8 | -0.33 | 0.43 | 0.07 |
| 1st quartile | 2.24 | 1.73 | 0.76 | 0.24 | 1.37 | -0.11 | 0.48 | 0.03 |
| 2nd quartile | 2.43 | 1.76 | 0.82 | 0.18 | 1.12 | -0.13 | 0.4 | 0.03 |
| 3rd quartile | 2.65 | 1.93 | 0.88 | 0.21 | 1.22 | -0.15 | 0.44 | 0.03 |
| 4th quartile | 3.17 | 1.86 | 0.95 | 0.12 | 0.64 | -0.18 | 0.27 | 0.02 |
| 1 child | 3.05 | 2.08 | 1.02 | 0.2 | 1.15 | -0.17 | 0.43 | 0.03 |
| More than 1 child | 2.29 | 1.67 | 0.74 | 0.2 | 1.07 | -0.11 | 0.39 | 0.03 |

¹ All values are statistically significant at the 1 percent level.

Source: SOEP 2010, 2011, 2012; FID 2010, 2011, 2012; own calculations.

© DIW Berlin 2015

term for *Familienarbeitszeit* are manageable.¹² This is, of course, due to the initially low number of eligible families. The gross costs comprise the sum of the cash benefits that are paid out to parents in the respective

qualifying configurations. Depending on the variant, these costs amount to anywhere from 220 million euros (fixed working-time model with lump sum) to 350 million euros (corridor model with wage replacement) per year (Table 5).

¹² The findings on the fiscal costs are related to the overall costs of the benefits for two-parent households and single-parent households.

But since most of the *Familienarbeitszeit* variants lead to an increase in work volume, the income tax reve-

Table 3

Behavioural effects couples – corridor model¹, variant 1: wage replacement benefit

In percent

| | Familienarbeitszeit | | Change of working hours | | | Change in participation | |
|-------------------|---------------------|------------------------------------|-------------------------|-------|-------|-------------------------|------|
| | Overall share | Overall increase in percent points | All | Women | Men | Women | Men |
| All couples | 3.2 | 1.39 | -0.04 | 0.8 | -0.35 | 0.55 | 0.04 |
| West | 2.83 | 1.23 | 0.01 | 1.02 | -0.31 | 0.61 | 0.03 |
| East | 5.1 | 2.21 | -0.24 | 0.24 | -0.57 | 0.36 | 0.08 |
| 1st quartile | 2.69 | 1.12 | 0.03 | 0.98 | -0.27 | 0.59 | 0.04 |
| 2nd quartile | 3 | 1.29 | -0.03 | 0.84 | -0.32 | 0.55 | 0.03 |
| 3rd quartile | 3.29 | 1.44 | -0.03 | 0.89 | -0.35 | 0.59 | 0.04 |
| 4th quartile | 4.26 | 1.97 | -0.18 | 0.43 | -0.53 | 0.44 | 0.05 |
| 1 child | 3.76 | 1.66 | -0.09 | 0.76 | -0.42 | 0.56 | 0.03 |
| More than 1 child | 2.88 | 1.24 | -0.01 n.s. | 0.82 | -0.3 | 0.54 | 0.04 |

¹ In the case of the corridor-model, the total increase in families using "Familienarbeitszeit" is from couples from categories other than in the corridor of 28 to 32 hours by definition.

All values statistically significant at least at the 10 percent level (except for values marked with n.s.)

Source: SOEP 2010, 2011, 2012; FiD 2010, 2011, 2012; own calculations.

Table 4

Behavioural effects couples – corridor model¹, variant 1: lump sum benefit

In percent

| | Familienarbeitszeit | | Change of working hours | | | Change in participation | |
|-------------------|---------------------|------------------------------------|-------------------------|-------|-------|-------------------------|------|
| | Overall share | Overall increase in percent points | All | Women | Men | Women | Men |
| All couples | 2.94 | 1.13 | 0.04 | 0.77 | -0.22 | 0.43 | 0.04 |
| West | 2.52 | 0.93 | 0.07 | 0.88 | -0.18 | 0.45 | 0.03 |
| East | 5.04 | 2.16 | -0.06 | 0.47 | -0.42 | 0.38 | 0.08 |
| 1st quartile | 2.64 | 1.07 | 0.12 | 1.07 | -0.18 | 0.55 | 0.05 |
| 2nd quartile | 2.83 | 1.12 | 0.04 | 0.82 | -0.22 | 0.45 | 0.03 |
| 3rd quartile | 3.04 | 1.18 | 0.04 | 0.84 | -0.24 | 0.46 | 0.03 |
| 4th quartile | 3.44 | 1.15 | -0.06 | 0.29 | -0.25 | 0.21 | 0.03 |
| 1 child | 3.41 | 1.31 | 0.02 n.s. | 0.74 | -0.27 | 0.43 | 0.03 |
| More than 1 child | 2.67 | 1.03 | 0.06 | 0.78 | -0.19 | 0.43 | 0.04 |

¹ In the case of the corridor-model, the total increase in families using "Familienarbeitszeit" is from couples from categories other than in the corridor of 28 to 32 hours by definition.

All values statistically significant at least at the 10 percent level (except for values marked with n.s.)

Source: SOEP 2010, 2011, 2012; FiD 2010, 2011, 2012; own calculations.

nues and social security contributions likewise increase. In addition, savings arise in other benefits such as *Kinderzuschlag* (supplementary child allowance), *Arbeitslosengeld II* (an unemployment benefit) and *Wohngeld* (housing benefits). The net costs of *Familienarbeitszeit* are therefore significantly lower than the gross costs and—depending on the variant—amount to 130 to 320 million euros per year.

The corridor model necessitates significantly higher gross costs than does the base model. This is particularly true in the corridor model with wage replacement variant (Table 5, column 2): Here the desire for the lower working hours in the corridor increases, since part of the difference between the three-quarters income and a full-time job's income is being compensated. Because of these incentives and the related behavioral responses, the savings

Table 5

Expected costs of Familienarbeitszeit in million Euro per year

In Millionen Euro pro Jahr

| | Variant 1: Wage replacement benefit | | Variant 2: Lump-sum benefit | |
|-----------------------------------------------------------------------------|-------------------------------------|----------------|-----------------------------|----------------|
| | Base model | Corridor model | Base model | Corridor model |
| Expenditures for Familienarbeitszeit (gross) | 226.98 | 353.55 | 222.02 | 259.61 |
| Additional revenues | | | | |
| Income tax (including solidarity tax) | 54.21 | 4.87 | 56.86 | 25.12 |
| Social security contributions | 16.88 | 7.68 | 16.47 | 9.02 |
| Savings regarding social transfers | | | | |
| <i>Kinderzuschlag</i> (in-work credit for families with dependent children) | 0.50 | 3.44 | 3.24 | 3.83 |
| <i>Arbeitslosengeld II</i> (social assistance) | 10.08 | 17.05 | 12.60 | 16.50 |
| <i>Wohngeld</i> (housing benefit) | 1.45 | 2.40 | 2.03 | 2.47 |
| Net costs | 143.86 | 318.11 | 130.82 | 202.67 |

Source: SOEP 2010, 2011, 20112; FiD 2010, 2011, 2012; own calculations.

© DIW Berlin 2015

in this scenario are lower and the net costs are comparatively high. These problems do not arise in the corridor model with lump sum variant, and this is reflected in significantly lower gross and net costs (Table 5, column 4).

Generally, a greater utilization of the benefits are possible in the middle- to long-term through a shift in parents' working time preferences and a labor market that better accommodates these time arrangements. These changes in social norms and/or preferences, as well as changes on the part of employers, are not taken into account in this simulation. If, in the medium- to long-term, significantly more families begin shifting toward the working-hours configurations that qualify for *Familienarbeitszeit*, higher costs can be expected.

Conclusion

While the public funding of childcare facilities plays an important role in facilitating a good work-life balance for women in Germany, fathers must also participate more in childcare and household work. Policy must be shaped to facilitate this: The *Partnerschaftsmonate* in

the *Elterngeld* plan, as well as the new regulations in *ElterngeldPlus*, are a first step in this direction. But the concept behind *Familienarbeitszeit* takes it one step further: This benefit only offers financial help to families in which both parents are employed and taking on household work. To be eligible, both parents must be engaged in three-quarters employment. The benefit would also work for single parents.¹³

The calculations show that depending on the variant—that is, the configuration of the benefit and the eligibility requirements—the proportion of families with children aged two to four years in which both parents are engaged in three-quarters employment would rise by nearly two percentage points, up to 2.5 to 3 percent. There is little difference between the variants with a wage replacement and the variants with a lump sum benefit, though households with lower incomes will benefit somewhat more from the latter. In addition, a lump sum benefit creates less of an administrative burden and increases transparency for potential beneficiaries. A lump sum benefit therefore appears to be better suited for implementation.

The comparison of the different variants' eligibility requirements in terms of working time shows that a flexible working-time corridor of 28 to 32 hours per week for each parent reaches more families than does a fixed-working time model in which each parent must work exactly 32 hours. However, the total work volume does not increase in the corridor model.

The fiscal costs involved in all four variants of the *Familienarbeitszeit* are manageable compared to other family-oriented benefits. In the most expensive variant—the corridor model with wage replacement—the net annual costs amount to roughly 320 million euros per year. A variant with a lump sum would limit the costs. When interpreting these results, however, it is important to note that they are only representing short-term effects, because the underlying simulation model cannot reflect changes in social norms and preferences. It is possible, however, that in the medium- to longer-term many more couples will opt for *Familienarbeitszeit*, in which cases the costs would also rise.

¹³ For results for single parents, see: Müller, Kai-Uwe, Michael Neumann, and Katharina Wrohlich (2015), *lc*.

Kai-Uwe Müller is Research Associate in the Public Economics Department at DIW Berlin | kmueller@diw.de

Michael Neumann is Doctoral Student in the Public Economics Department at DIW Berlin | mneumann@diw.de

Katharina Wrohlich is Deputy Head in the Public Economics Department at DIW Berlin | kwrohlich@diw.de

JEL: J13, J22, J16

Keywords: family benefits, reduced working hours, gender equality



Dr. Kai-Uwe Müller, Research Associate in the Public Economics Department at DIW Berlin

SIX QUESTIONS TO KAI-UWE MÜLLER

»Costs of ›family working-time benefits model‹ (*Familienarbeitszeit*) manageable in the short term«

1. Mr. Müller, what is the current state of the work-life balance in Germany? Since the introduction of *Elterngeld*, the situation has improved. Especially the expansion of subsidized day-care for small children has contributed to this development. On the other hand, there's still a relatively widespread dissatisfaction with the work-life balance. Mothers would like to participate more in the labor market; fathers are working much more and often would like to reduce their hours.
2. What role do fathers play in work-life balance? In Germany, the so-called single-earner model dominates, in which fathers usually work full-time and mothers—especially when the children are younger—are usually not employed or only working in negligible amounts. In this respect, work-life balance is for the most part a “mothers' problem.” Reforms like *Elterngeld* and *ElterngeldPlus* were the initial approaches taken to bettering the work-life balance for fathers and mothers.
3. A while back, the Friedrich Ebert Foundation proposed the idea of wage compensation as part of *Familienarbeitszeit*. What's the basic idea behind it? *Familienarbeitszeit* starts in the phase following *Elterngeld*: That is, it is created for families with children between the ages of 1 and 3. The basic idea is a financial benefit for families in which the father and the mother are both engaged in three-quarters employment (working about 30 hours per week). The benefit partially replaces the difference in income between the three-quarters jobs and a full-time job.
4. DIW Berlin investigated new variants of the *Familienarbeitszeit* benefits model in a recent study. What distinguishes the new version from the old model? In the new model, we have expanded or complemented the concept in two areas in particular. The first change involves the form the monetary benefit takes: In the original model the benefit was based designed as “wage compensation” and varied with the working parents' income levels. The new version involves a fixed monthly lump sum payment of 250 euros as an alternative, which simplifies the entire thing. The second change involves the eligibility requirements in terms of working hours: In the previous model, there was a rigid working-time requirement in which the benefit could only be obtained if both partners worked three-quarters jobs that consisted of exactly 32 hours per week. We have flexibilized this using a so-called “working-time corridor”: Now, both parents may work anywhere between 28 and 32 hours to qualify, which allows them more flexibility. This broadening of the entitlements will support a larger number of families overall.
5. Which families will benefit more from the new configurations and which families will benefit less? With regard to lump sum versus wage compensation, we have found that the overall effects are quite similar all around. The incentives for taking advantage of *Familienarbeitszeit* would be about the same. However, the flat-rate benefit would tend to be somewhat more favorable for lower-income households, as they would be getting proportionately more money. Inversely, higher-income households would tend to receive somewhat less funding. To that extent, the lump sum is slightly more redistributive—one might say, somewhat more “socially” configured.
6. What kind of costs does the government incur for *Familienarbeitszeit*? The costs incurred by the government arise directly [from?] the costs of the actual financial benefit being paid out, of course. But since most of the *Familienarbeitszeit* variants lead to an increase in work volume, the income tax revenues and social security contributions likewise increase. Compared to many other family benefits, the fiscal costs here are very manageable. We anticipate total costs of 130 to 320 million euros per year, depending on the respective version of the *Familienarbeitszeit*.

Interview by Erich Wittenberg

Does better, cheaper day care make for more satisfied parents?

By Georg F. Camehl, Juliane F. Stahl, Pia S. Schober and C. Katharina Spieß

Following the major expansion of day care provision in Germany in recent years, the quality of these programs has increasingly also been the subject of public debate. When evaluating the quality of German day care centers, experts have frequently concluded that there is considerable room for improvement. Apart from considering expert opinions, it is also interesting to look at how parents rate the quality of day care centers and whether this differs according to level of income or education. The present article primarily focuses on parental satisfaction with various quality aspects. To determine this, data from an extension study are analyzed for the first time, surveying parents from the Socio-Economic Panel (SOEP) study and the Families in Germany (*Familien in Deutschland*, FiD) study whose children attend a day care center. We examine satisfaction with different aspects related to organization, equipment and resources, pedagogic staff, activities with the children, cooperation with parents, and, specifically, cost. A supplementary analysis on potential willingness to pay, depending on household income, provides us with additional information on the extent to which parents would be prepared to pay more for a day care place for their child. The analyses show that while parental satisfaction is generally high, satisfaction is lowest with cost and with opportunities for parental involvement in the day care center. With regard to overall satisfaction with the day care center, however, cost plays no role at all – here the key factors are staffing and particularly parents' perceptions of whether their wishes are taken into consideration. When parents are asked about the maximum amount they would be willing to pay for day care, the higher-earning parents are generally prepared to pay more for a place for their child than they have done to date.

In recent years, Germany has invested massively in expanding the number of day care places for children under the age of three. As of August 1, 2013, in Germany every child aged over 12 months is legally entitled to a place in a day care institution. Since around 33 percent of all under-threes now attend day care, recent discussions have focused increasingly on its quality.¹ Criticism is frequently voiced that groups are too large and the child-to-educator ratio does not comply with expert recommendations. The NUBBEK study² on early childhood education and care, for example, shows that quality varies considerably between day care centers, and overall quality could only be rated as mediocre. Other studies demonstrate that, in many facilities, the meals provided are not nutritionally balanced and do not always comply with the standards of the German Nutrition Society (DGE).³ Moreover, in recent years, there have been heated discussions about the qualifications and further training of the pedagogic staff working in early childhood education and care. New study programs and staff training initiatives have been developed as a result.⁴ There are also major regional differences in the quality of day care centers which are increasingly the subject of public and political debate: inter alia the German central government and federal state governments are in the process of conducting talks on introducing nationwide quality standards.⁵

¹ German Federal Statistical Office (Statistisches Bundesamt), Statistiken der Kinder- und Jugendhilfe. Kinder und tätige Personen in Tageseinrichtungen und in öffentlich geförderter Kindertagespflege (Wiesbaden: March 1, 2015).

² W. Tietze, F. Becker-Stoll, et al., Nationale Untersuchung zur Bildung, Betreuung und Erziehung in der frühen Kindheit (NUBBEK) (Weimar/Berlin: 2013).

³ See for example U. Arens-Azevêdo, U. Pfannes, et al., Is(s)it KiTa gut? KiTa-Verpflegung in Deutschland: Status quo und Handlungsbedarfe, study commissioned by the Bertelsmann Stiftung (2014).

⁴ On this, see WIFF Initiative (training initiative for early childhood education professionals), www.weiterbildungsinitiative.de/, last accessed September 2014.

⁵ Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ), Communiqué Frühe Bildung weiterentwickeln und finanziell sichern: 2014).

Both experts and, increasingly, policy-makers now confirm that the quality of German day care centers requires improvement. It is also interesting to see how parents rate the quality of these institutions. Parents select a day care center and, together with their children, are the consumers of this service. Further, the parental perspective is key as they have joint responsibility, along with the center staff, for the education and upbringing of the child and, as such, should work in cooperation.⁶

How satisfied are parents with the quality of the centers their children attend, with which aspects are they particularly (dis)satisfied, and does satisfaction vary across socio-economic groups? Moreover, are parents with children aged three and over more satisfied with different aspects than parents of under-threes? These are some of the questions addressed by the present article.⁷

Previous findings on correlations between parental satisfaction and quality of day care

With regard to parental satisfaction with the quality of day care, the reports evaluating the Childcare Funding Act (*Kinderförderungsgesetz, KiföG*), including the German Youth Institute's (DIJ) *KiföG Länder* study, are an important source of information.⁸ On average, the findings indicate a high level of satisfaction: during the period from 2009 to 2014, between 85 and 91 percent of parents with children in day care centers were either satisfied or very satisfied.⁹ Taking account of various aspects of the service, satisfaction with cost received the lowest values but almost 50 percent of parents surveyed were still (very) satisfied with the cost of day care.¹⁰ However, studies indicate that, in some cases, there are striking differences between German federal states when it comes to parental satisfaction. For instance, parents in West Germany expressed a higher level of satisfaction with group size whereas those in East Germany were more satisfied with activities and educational programs.¹¹

Previous analyses conducted by DIW Berlin were based on data from the SOEP-related survey Families in Germany (FiD) from 2010 and included parents of children up to the age of six years. Although satisfaction levels were indeed high, fluctuations were still observed depending on the particular aspect considered—satisfaction with cost was lowest here, too.¹² The analyses showed that large families with at least three children as well as parents with lower levels of education tended to be more satisfied.

The comparatively high level of parental satisfaction with the quality of their child's day care center is also reflected in international literature.¹³ In addition to the finding that mothers with more children and a lower socio-economic status are more satisfied with their child's day care,¹⁴ the perceived social support provided by the day care center as well as parental involvement also proved to be important predictors of parental satisfaction.¹⁵ However, it was rarely possible to observe a correlation between parental satisfaction and the actually measured quality of the day care center.

Differences in quality aspects and cost depend on region

Since the responsibility for regulating day care in Germany primarily lies with the federal state and local governments, we would expect to see regional differences in both the quality and cost of day care. In 2013, in day care groups of under-threes, the average number of children per pedagogic staff across the different youth welfare office districts ranged from 2.3 to 9.3. From three years to school age, the average staffing ratio varied between 1 to 6.1 and 1 to 15.5.¹⁶ Parental participation rights in early childhood education and care institutions are also determined on the federal state level. Primarily, parents must be consulted or at least informed about subjects such as the center's educational concept or opening times, al-

6 The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK), *Gemeinsamer Rahmen der Länder für die frühe Bildung in Kindertageseinrichtungen* (2004).

7 The present analysis was conducted as part of the project "Early Childhood Education and Care Quality in the Socio-Economic Panel (K2ID-SOEP)," funded by the Jacobs Foundation. See also www.k2id.de.

8 The databases used for these reports were the AID:A-Studie ("Aufwachsen in Deutschland: Alltagswelten") (Growing Up in Germany) and annual supplementary studies which include only parents with children under the age of three.

9 Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ), *Vierter Zwischenbericht zur Evaluation des Kinderförderungsgesetzes* (Berlin: 2013); BMFSFJ, *Fünfter Bericht zur Evaluation des Kinderförderungsgesetzes* (Berlin: 2015).

10 BMFSJ, *Vierter Zwischenbericht*; BMFSFJ, *Fünfter Bericht*.

11 C. Alt, S. Hubert, et al., *Der U3-Ausbau: Angebote, Bedarfe und Zufriedenheit: Eine Analyse auf Basis der KiföG-Bundesländerstudie 2012* (Munich: 2013).

12 K.-U. Müller, C. K. Spieß, et al., "Evaluationsmodul: Förderung und Wohlergehen von Kindern: Endbericht," DIW Berlin – Politikberatung kompakt 73 (Berlin: 2013).

13 J. Barnes, P. Leach, et al., "Infant care in England: mothers' aspirations, experiences, satisfaction and caregiver relationships," *Early Child Development and Care* 176 (5) (2006): 553–573; V. Peyton, A. Jacobs, et al., "Reasons for choosing child care: associations with family factors, quality, and satisfaction," *Early Childhood Research Quarterly* 16 (2) (2001): 191–208. M. Scopelliti and T. Musatti, "Parents' View of Child Care Quality: Values, Evaluations, and Satisfaction," *Journal of Child and Family Studies* 22 (8) (2012): 1025–1038.

14 See for example, Scopelliti and Musatti, "Parents' View of Child Care Quality," Barnes and Leach, et al., "Infant care in England."

15 See for example, P. A. Britner and D. A. Phillips, "Predictors of parent and provider satisfaction with child day care dimensions: A comparison of center-based and family child day care," *Child Welfare* 74 (6) (1995): 1135–1168; Scopelliti and Musatti, "Parents' View of Child Care Quality."

16 E. Strunz, *Kindertagesbetreuung vor Ort – Der Betreuungsatlas 2013. Eine Analyse lokaler Unterschiede* (Dortmund: 2014).

though, even here, differences exist depending on the federal state and also the subject matter.¹⁷

With regard to day care fees, DIW analyses confirm that there are substantial differences in the financial contributions families make and that around 18 percent of families with children attending day care are completely exempt from fees.¹⁸ Within municipalities, these discrepancies arise partly as a result of a sliding scale for contributions based on criteria such as income, number of children eligible for child benefits in the family, and daily hours of attendance.¹⁹ Nonetheless, Schröder et al. (2015) show that, relatively speaking, the financial burden of low-income families who are obliged to pay day care fees is greater than the relative burden of families at the upper end of the income distribution.

In May 2014, there were general exemptions from fees in six federal states although, for the majority, these exemptions only applied to the child's final year in day care before starting elementary school.²⁰ In Berlin and Rhineland-Palatinate, however, a much broader general exemption from fees has been in place for some time now.

Therefore, major regional discrepancies in quality remain and, for this reason alone, differences in satisfaction are to be expected. In addition, parents—like experts—do not perceive quality as a one-dimensional construct but they differentiate between various aspects.

Analysis of different quality aspects

Our analyses are based on a supplementary survey of households with at least one child under the age of six which is part of the German Socio-Economic Panel (SOEP) study or the supplementary sample Families in Germany (FiD) in 2013.²¹ Parents with a child attending

17 Bertelsmann Stiftung, Ländermonitor Frühkindliche Bildungssysteme: Elternbeteiligung in Kitas – Beteiligungsrechte (October 2010).

18 C. Schröder and C. K. Spieß, et al., "Private Spending on Children's Education: Low-Income Families Pay Relatively More," DIW Economic Bulletin, no. 8 (2015): 113–123.

19 Section 90 of SGB VIII. According to Book VIII of the German Social Welfare Code, a full exemption from fees can be awarded if the parents and child cannot reasonably be expected to bear the financial burden.

20 Bertelsmann Stiftung, Ländermonitor Frühkindliche Bildungssysteme: Rechtsanspruch des Kindes: Betreuungsplatz und -umfang (May, 2014).

21 This survey was conducted as part of the aforementioned K2iD project. The Socio-Economic Panel (SOEP) study is the largest and longest running multi-disciplinary longitudinal study in Germany. Since 1984, the survey institute *TNS Infratest Sozialforschung* has been surveying thousands of individuals every year for the SOEP. Currently, the survey covers around 30,000 respondents in approximately 15,000 households. SOEP data provide information on, *inter alia*, income, employment, education, health, and life satisfaction. Because the same respondents are surveyed every year, this lends itself to detailed analyses not only of long-term social trends but also of the group-specific development of life courses. See G. G. Wagner, J. R. Frick, et al., "The German Socio-Economic Panel Study (SOEP) – Scope, evolution and enhancements," *Schmollers Jahrbuch* 127 (1) (2007): 139–169. In 2013, these were still two

Box

Procedure for multivariate analyses

We use five multivariate linear regression models at the level of the individual child to study the connections between parental satisfaction with various aspects of the child daycare establishment, socio-economic characteristics, and the level of quality.¹ For the following selected aspects, we estimate linear regression models with the respective degree of satisfaction as a dependent variable: (1) number of pedagogic staff, (2) nutrition, (3) maths/science activities, (4) opportunities for parental participation in decision-making, and (5) cost. The aim of this selection is to focus on aspects associated with considerable variation in satisfaction and to study them in greater detail. We examine whether parental satisfaction varies according to the mother's level of education and net household income (the latter is indicated in units of 100 euros). We test whether these correlations are statistically significant when controlling for level of quality.

1 If several children under six years of age were living in a household at the time of the survey, a separate questionnaire was completed for each of them.

day care were surveyed both about the quality of the day care center and about their satisfaction.²² The average age of the children of parents surveyed was four years so the majority of those questioned were parents with children aged three years and over.

First, our study examines parental satisfaction with the various quality aspects—here we subdivide respondents into parents with children under three and those with children aged three and over. All responses are recorded on a scale from 0 "completely dissatisfied" to 10 "completely satisfied." In our initial analyses, we divide the satisfaction values captured in the survey into four categories: (1) dissatisfied, (2) partly satisfied, (3) satisfied, and (4) very satisfied. Our analysis focuses on the following quality aspects, each of which is measured using various criteria:

separate studies but since 2014, the FiD survey has been integrated into the SOEP, see M. Schröder, R. Siegers, et al., "Familien in Deutschland" – FiD," *Schmollers Jahrbuch* 133 (4) (2013): 595–606.

22 One parent should complete a questionnaire for each child under school age. Overall, 84 percent of questionnaires were completed by mothers and 16 percent by fathers. In order to present representative findings for Germany, the results were adjusted for nonresponse using nonresponse weighting.

The variables used in determining the level of quality are scaled as follows: the child-to-educator ratio specifies the number of children per pedagogic staff; the nutritional aspect is binary mapped and determines whether the day care center has a pedagogic focus on health or nutrition; the frequency of science activities was recorded on a scale of 1 ("not at all") to 7 ("several times a week"); the extent to which requests and suggestions by parents with regard to opening hours, meals, educational program, etc. are taken account of by the day care center was rated by parents on a scale of 0 ("not at all") to 10 ("very much") with five such aspects being combined to generate an average value; the amount of the monthly day care fees is indicated in units of 10 euros.

In addition, every model includes the following control variables: number of hours that the child is cared for per week; number of months the child has attended the establishment; number of children in the household; parents' marital status; parental migration background if any; the child's age, and indicators as to whether or not the household is located either in East Germany or in a major city.

- 1) Organization: opening times, daily routine, nutrition, and cost.
- 2) Equipment and resources: space, garden, play and learning materials, group size, number of children per pedagogic staff.
- 3) Pedagogic staff: qualifications, regular further training, and also support tailored to children's individual needs.
- 4) Activities stimulating child development in the fields of movement, language, music or art, and math and science.
- 5) Cooperation with parents: communication between pedagogic staff and parents, opportunities to participate in decision-making, and advice or activities explicitly for parents.

In the next stage of our study, using multivariate analyses (see Box), we examine the extent to which various education and income groups differ with regard to their satisfaction with particular aspects of quality. Satisfac-

tion with quality is likely to depend on the level of quality and this was therefore included in our analysis. To capture the quality of a day care center attended by a child we use the assessment of the facility's quality provided by one of the child's parents.

In an additional step, we examine overall satisfaction with the day care center and how this relates to the level of quality and cost.

Since previous analyses have shown that satisfaction with cost is especially low, we place particular emphasis on this and conduct a separate detailed examination of the correlation between satisfaction and cost. At the same time, we also analyze whether certain groups of parents were willing to pay higher fees for their child to attend day care and the maximum amount they would be prepared to pay, respectively.

Low parental satisfaction with opportunities for involvement

Figure 1 shows parental satisfaction with the various quality aspects for two age groups (under three or three years and over). Overall, the data confirm that parental satisfaction is predominantly high. However, there are different variances in levels of satisfaction: the smallest variance can be seen in satisfaction with daily routine and the largest in satisfaction with cost, meaning that the biggest differences can be observed here.

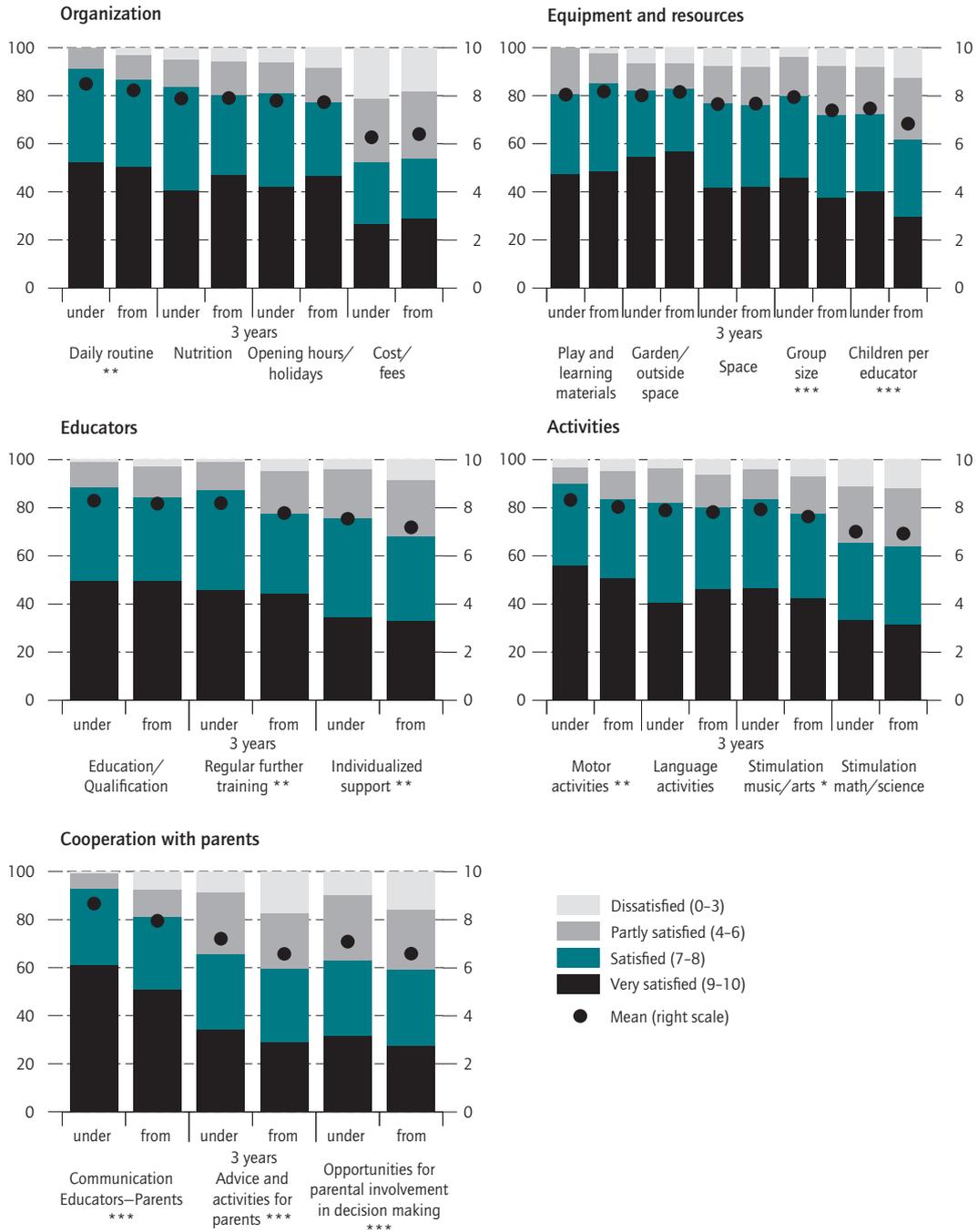
Parents in Germany are most satisfied with the daily routine in their child's day care center. Around 80 percent of parents are also (very) satisfied with opening hours and nutrition. However, with regard to equipment and resources, parents are apparently less satisfied particularly with group size and with the child-to-educator ratio. Parents are, for the most part, satisfied or very satisfied with the level of qualifications and further training of the pedagogic staff in their child's day care center. Concerning activities focused on child development, parents are least satisfied with efforts in the fields of math and sciences. Parents are also relatively dissatisfied with opportunities to consult with pedagogic staff and to participate in decision-making. Finally, parents are least satisfied with the cost.

Overall, it was evident that parents with children from three years to school age were significantly more dissatisfied with 10 of the 19 partial aspects. It is notable that parents with children aged three and over are more dissatisfied with group size. With regard to support tailored to their child's individual needs, parents with older children are more likely to desire better support and also tend to be less satisfied with the daily routine in their child's day care facility. Further, parents

Figure 1

Parental satisfaction with selected aspects of day care quality and cost, by age of the child

Shares in percent and means



Weighted results. Significant differences in means by child age are indicated as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Sources: K²ID parent survey, SOEPv30, FiDv4.0; own calculations.

Parents are least satisfied with day care fees and with opportunities for parents to be involved in decision making.

with children from three to school age are significantly more dissatisfied with all three aspects related to cooperation with parents.

Marked socio-economic differences in satisfaction with cost of day care

The analyses (for a description of the methodology used, see Box) showed that households with college educated mothers are more satisfied with their day care fees than those with lower educated mothers when the same fees are payable (see Table).²³ In this case parents with a higher household income also report that they are more satisfied with day care costs. No significant correlations can be identified between maternal education or household income and satisfaction with the child-to-educator ratio, meals provided by the facility, science activities, or opportunities for the parents to participate in decision-making.

Similar to previous studies, our analyses indicate that parents with more children in the household tend to be more satisfied—specifically with the number of pedagogic staff, with math/science activities, and with opportunities to be involved in the center’s decision-making. With respect to parental satisfaction with math/science activities, parents living in urban areas and those whose children have already been attending their day care center for a longer time express a lower level of satisfaction. The level of the respective quality aspect for which satisfaction is captured is most strongly correlated with parental satisfaction. Thus, the fewer children per pedagogic staff, the more frequently their child participates in activities fostering math and science knowledge, the more influence parents feel they have over decision-making in the institution, and the lower the fees they pay, the more satisfied parents are with the relevant aspect. These quality differences are more crucial than socio-economic differences when it comes to explaining variation in parental satisfaction, which suggests that parents of children attending day care are ‘rational’ consumers: parental satisfaction with the service depends on how they rate the level of quality.

Differences in overall satisfaction with the day care center depend on quality but not cost

The level of overall satisfaction with day care centers is high, with a mean value of 8.1. Figure 2 shows the level of satisfaction with the day care center as a whole by parents whose children attend day care institutions that lie above or below the median for individual criteria, mean-

²³ The difference of 0.46 points corresponds to 16 percent of a standard deviation and is regarded as moderate.

Table

Relationship of parental satisfaction with different aspects of day care quality and socio-economic factors as well as respective levels of quality

Parameters of OLS Regressions

| | Satisfaction with ... | | | | |
|----------------------------------|--------------------------------------------|---------------|---------------------------------|---------------------------------------------------------------|----------------------------|
| | ... number of children per pedagogic staff | ... Nutrition | ... math and science activities | ... Opportunities for parental involvement in decision-making | ... cost/fees ¹ |
| | M1 | M2 | M3 | M4 | M5 |
| College degree | -0.166 | -0.169 | 0.045 | 0.101 | 0.456* |
| Household income ² | 0.004 | -0.005 | -0.001 | 0.001 | 0.023*** |
| No. of children in household | 0.301*** | 0.090 | 0.220*** | 0.127* | -0.152 |
| Duration of attendance in months | -0.006 | -0.004 | -0.013** | -0.005 | -0.009 |
| Town (> 10,000 inhabitants) | -0.058 | -0.086 | -0.501*** | -0.053 | 0.105 |
| Level of quality ³ | -0.288*** | 0.256 | 0.574*** | 0.671*** | -0.082*** |
| N | 1,383 | 935 | 1,173 | 1,286 | 1,260 |
| R ² | 0.16 | 0.02 | 0.28 | 0.41 | 0.07 |

Additional control variables in the model: Hours of attendance per day; single parent; migration background; age of child; East Germany. Weighted results. * p < 0.1, ** p < 0.05, *** p < 0.01

¹ Due to substantial exemption from fees Berlin und Rhineland-Palatinate have been excluded from the estimations of satisfaction with fees.

² The monthly net household income is measured in 100€-units.

³ The level of quality refers to: M1: No. of children per educator, M2: Pedagogic focus on health or nutrition, M3: Frequency of science activities, M4: Consideration of parental wishes, M5: paid day care fees per month in 10€-units.

Sources: K²ID parent survey, SOEPv30, FiDv4.0; own calculations.

Mothers with a college degree and parents with higher household income are more satisfied with the day care fees.

ing that the quality achieved in respect of a particular criterion is better or worse than average. There are significant differences between the groups: the child-to-educator ratio and the degree to which parents can exert influence seem to be particularly important. For both aspects, satisfaction differs between the groups with a high and low value of around one point which represents a moderate deviation compared to a standard deviation of 2 and 2.6, respectively. Parents with higher day care costs, however, are overall not more dissatisfied with the day care center than those with lower costs.

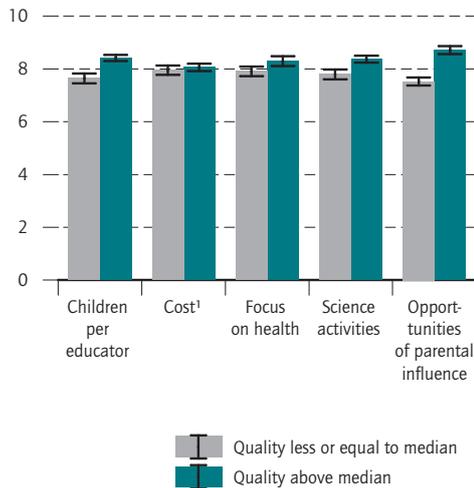
Greater willingness to pay among higher income groups

Previous analyses have demonstrated that as the cost of day care rises, dissatisfaction with this aspect increases, as is to be expected. Additional analyses with interaction effects between cost and household income have

Figure 2

Predictors of parental satisfaction with day care center

Means



1 Quality below the median refers to cost above the median; indicators of 95% confidence intervals. Weighted results.

Sources: K²ID parent survey, SOEPv30, FiDv4.0; own calculations.

© DIW Berlin 2015

The overall satisfaction with the day care center varies in particular by child-to-educator ratio and opportunities for parents to be involved in decision-making.

shown that dissatisfaction with the cost increases less rapidly in higher-income households. This raises the question of whether the willingness to pay for attendance of a day care facility varies according to income. This question can be answered using the data of Families in Germany (FiD).²⁴ Participating households were asked to state the maximum amount they would pay per month per child, taking into account their financial situation. We compared the amounts they were willing to pay with the amounts they actually paid, differentiating between households by income quintile.²⁵

As is to be expected due to sliding scale fees, day care costs rise with household income (see Figure 3): Households in the lowest income quintile pay 57 euros on average; for those in the highest quintile, this figure is 162 euros. The corresponding averages for the willing-

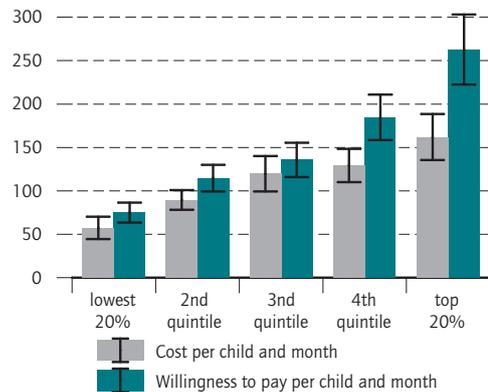
²⁴ Parents were asked in 2012 about their willingness to pay. The corresponding question was not included in the SOEP, thus reducing the number of cases for these analyses to 731 households.

²⁵ In other words, the households are grouped according to whether the monthly household income is among the bottom 20 percent, or more than the bottom 20 percent and less than the top 60 percent, and so on, ending with the top 20 percent. The average incomes for the respective quintiles are 1,622 euros, 2,512 euros, 3,217 euros, 4,018 euros, and 6,080 euros.

Figure 3

Differences in willingness to pay for day care and current cost, by household income quintile

In euro per month



Indicators of 95% confidence intervals. Weighted results. Data of willingness to pay from FiD 2012.

Source: FiDv4.0; own calculations.

© DIW Berlin 2015

Higher income groups are willing to pay more for day care.

ness to pay are 75 euros and 263 euros, respectively. The difference between actual cost and willingness to pay is not statistically significant for the lower three quintiles. In other words, these three groups are either unwilling or unable to pay more than the actual amount. In the two upper income quintiles, the average willingness to pay is significantly higher than the actual cost—which is to say that, in principle, they would be willing to pay more.

Conclusion

The present analyses confirm previous findings of a relatively high level of parental satisfaction with day care centers as a whole. At first glance, this contradicts the judgment of experts, who describe the quality of German day care centers as mediocre at best—albeit with marked differences among the various regions and institutions.

Our analyses, however, also reveal a more nuanced picture: in particular, parents are relatively dissatisfied with the level of costs and with the extent of opportunities to participate in decision-making. The latter is worth emphasizing as cooperation between pedagogic staff and parents is especially important in respect of the educa-

tion and care mandate of day care institutions. Accordingly, it should be given greater weight in the discussion about quality. Parents are also relatively dissatisfied with the individually tailored support for children and with the child-to-educator ratio. This stands in marked contrast to their high degree of satisfaction with the level of training of pedagogic staff. It is also worth noting that among parents with children aged three years and over, a greater proportion is dissatisfied than among those with younger children. This suggests that, from a parental perspective, the need to ensure quality for children aged three and over should not be lost sight of—in recent years, most efforts have been concentrated in particular on the under-threes.

Analyses taking into account a large number of factors have shown, moreover, that the biggest differences in satisfaction are to be explained less as a result of socio-economic characteristics than of differences in the level of day care quality. Parents therefore certainly do include quality aspects in their evaluation of day care centers.

This finding is noteworthy in view of the general opinion, among experts, that German day care is not of a particularly high quality. One reason for this divergence between parental and expert opinion could be differences in the assessment of quality. For instance, parents may not fully be able to evaluate the educational quality of centers,²⁶ or they may tend to evaluate their “own” day care facility more positively as a justification in their own

²⁶ Some empirical indications of this have been found previously, especially in American studies, see N. Mocan, “Can consumers detect lemons? An empirical analysis of information asymmetry in the market for child care,” *Journal of Population Economics* 20 (4) (2007): 743–780.

Georg F. Camehl is Research Associate in the Department Education and Family at DIW Berlin | gcamehl@diw.de

Juliane F. Stahl is Research Associate in the Department Education and Family at DIW Berlin | jstahl@diw.de

JEL: I24, I28, J13

Keywords: child care, early education, day-care quality, satisfaction, well-being, socio-economic differences, parents

minds for having chosen it. It is important to note, however, that the quality criteria covered in the present report only capture a limited set of quality aspects evaluated by experts.²⁷

In general, our analyses show only a few differences related to the mother’s level of education and household income: we found that given constant costs, parents are more satisfied with the fees they pay in households with college-educated mothers or with higher income. There is also clear evidence that parents with higher incomes are more willing than others to pay higher contributions than they currently do. This should give policy-makers food for thought because a general exemption from fees would also benefit high-income households, which are basically willing to accept even higher costs. Other analyses have similarly shown that day care fees are less of a burden, relatively speaking, for higher-income groups than for lower- and middle-income groups.²⁸ Such results favor a more progressive sliding scale for parents’ financial contributions to day care. This would free up public funds that policy-makers could then use to raise the mediocre quality of day care in Germany and reduce the differences in quality among the various institutions and regions. Parental satisfaction with day care centers as a whole and with individual aspects of quality would then—as our analyses suggest—increase further.

²⁷ In educational literature, the quality of day care centers is represented primarily by process-quality criteria that focus on the interaction of pedagogic staff with children. Even though the criteria examined by us have been found to correlate with process quality (see NICHD Early Child Care Research Network, “Child-Care Structure – Process – Outcome: Direct and Indirect Effects of Child-Care Quality on Young Children’s Development,” *Psychological Science* 13 (3) (2002): 199–206), they do not fully capture it.

²⁸ Schröder, Spieß, et al., “Private Spending.”

Pia S. Schober is Research Associate in the Department Education and Family at DIW Berlin | pschober@diw.de

C. Katharina Spieß is Head of the Department Education and Family at DIW Berlin | kspiess@diw.de

Integrating refugees: A long-term, worthwhile investment

By Marcel Fratzscher and Simon Junker

The debate about the massive influx of refugees into Germany often focuses solely on the short-term costs. But while these expenditures are bound to be substantial in the coming years, the discussion neglects the long-term economic potential of a successful integration of refugees—often, young people—which can transform the initial expenditure into a worthwhile investment. Even if many of the refugees' labor market prospects may be relatively poor for the first few years due to a lack of qualifications, and those who do find employment may be less productive than the average German worker, the long-term gains are likely to exceed the costs. This study uses simple simulations to outline the economic potential by comparing the costs and benefits of an integration in the long run. In addition to a baseline scenario, this article investigates both an optimistic and a pessimistic scenario. (It should be emphasized, however, that these are simulations and not forecasts—clearly, more detailed studies are needed to measure these effects more precisely.) The central question boils down to when, not whether, the integration of refugees gains sufficient momentum to outweigh the costs—because even if the labor market integration turns out to be sluggish, the refugees will still have a positive impact on the German economy after five to ten years. Most importantly, even in terms of per capita income of non-refugees, the benefits will exceed the costs in the long-term, thus highlighting the benefits to the entire economy.

The calculations carried out for the purpose of this study are based on the number of migrants currently seeking asylum in Germany. But due to the recent spike in refugee numbers, the official estimate—which the Federal Government currently sets at 800,000 for 2015—is likely significantly lower than the actual figure. According to media reports, the ministries are expecting this figure to stand at 1.5 million refugees in total by the end of the year. And given the information currently available, this number seems plausible, especially if the number of refugees arriving between October and December remains as high as the number reported in September: That is, in the period between January and September of this year, 303,443 people applied for asylum, and 577,307 people in total have already entered Germany and are intending to submit applications. In September, the number of asylum applications stood at 43,071, and the number of individuals recorded at the Federal Office for Migration and Refugees and in the system for the initial allocation of asylum seekers (*System zur Erstverteilung der Asylbegehrenden*, or EASY) amounted to 163,772.¹

This report assumes a refugee migration of 1.5 million in 2015 and 2016, respectively. Moreover, it is assumed that the number will remain high in 2017, with 750,000 people, and not until 2018 will the influx start to ease up somewhat. From 2018 until 2020, 500,000 people are assumed to come to Germany every year; following this, no further refugee migration is assumed.

The processing of asylum applications is expected to take several months to complete, despite politicians' best efforts to shorten the process. In addition, many refugees will enroll in language and integration courses from the get-go. For an annual calculation like the one carried out here, it therefore makes sense to assume a late entry into the labor market. It is assumed that ref-

¹ See press release from the Federal Ministry of the Interior (BMI), October 7, 2015: *Sehr hoher Asyl-Zugang im September 2015*.

ugees will not take up employment in the year they arrive in Germany, nor in the following year.

The proportion of asylum applications that are approved—that is, the “acceptance rate”—influences the further development of costs and positive effects associated with the migration of refugees. A low ratio can mean that despite rejection, many refugees initially remain in Germany without being able to participate in the labor market. A high ratio, on the one hand, increases the chances of a successful integration by making more workers available to the labor market; on the other hand, it also carries the risk that many of the refugees will be unable to find employment.

The acceptance rate has risen steadily this year—probably because the makeup of the applicant group has shifted strongly toward including individuals with higher chances of receiving a positive decision. Most recently, this ratio stood at 39.1 percent. Since it is likely to keep increasing, it can be assumed that the average ratio will not only remain at this level over the next few years, but also will likely be significantly higher (Table).

Some of the refugees whose asylum applications are rejected will leave Germany. Others, however, will initially remain and be “tolerated.” It is assumed that this group initially accounts for half of all rejected asylum seekers. In the long run, however, more and more are likely to leave Germany. It is assumed that after five years, only one quarter of all refugees without residence permits will still be living in Germany; after the following five years, only one eighth will be.

Effects of refugee migration on the labor market

Various factors will affect the proportion of refugees who find employment. At first, the ages and genders of the accepted asylum seekers will play a critical role. According to currently available data, the proportion of asylum seekers who are of working age—that is, individuals between the ages of 15 and 74—stands at 72.7 percent. Young people account for an exceptionally high number of this share: More than half of the working-age applicants were under the age of 34. It should be noted that only figures about all asylum seekers are available; it is therefore assumed here that this age structure is the same among the accepted asylum seekers. Above all, however, the age structure is likely to have recently shifted once again toward young people. On the one hand, this means that the proportion of working-age refugees could be higher; on the other hand, it means that proportion of children among the current influx of refugees is likely to be high, else these refugees will be having children over the next few years. Because the ratio

Table

Assumptions

In percent

| | baseline | pessimistic scenario | optimistic scenario |
|------------------------------------------|----------|----------------------|---------------------|
| Acceptance rate | 45 | 40 | 50 |
| Share of working age population | 73 | 70 | 75 |
| Participation rate | 80 | 75 | 85 |
| Unemployment rate | | | |
| in years 2-5 | 60 | 65 | 50 |
| in years 6-10 | 45 | 50 | 38 |
| in years 11+ | 30 | 35 | 25 |
| Labor productivity ¹ | | | |
| in years 2-5 | 67 | 50 | 67 |
| in years 6-10 | 67 | 59 | 67 |
| in years 11+ | 67 | 67 | 67 |
| Costs ² | | | |
| during application stage (years 0 and 1) | 40 | 66 | 33 |
| not accepted, not working | | | |
| in years 2-5 | 30 | 40 | 20 |
| in years 6-10 | 30 | 40 | 20 |
| in years 11+ | 30 | 40 | 20 |
| Multiplicators | | | |
| during application stage (years 0 and 1) | 0.5 | 0.4 | 0.5 |
| accepted, working | 0.5 | 0.4 | 0.5 |
| accepted, not working | 0.5 | 0.4 | 0.5 |
| rejected | 0.5 | 0.4 | 0.5 |

¹ Labor productivity, percent of average productivity.

² In per-capita terms, percentages.

Source: DIW Berlin.

of working individuals to dependent individuals would be lower, the latter case would increase overall costs. For the scenarios examined in this report, a lower proportion (70 percent) as well as a higher proportion (75 percent) of working-age refugees will be considered.

The proportion of working-age refugees who intend to participate in the labor market is also important. It is conceivable, for example, that one of the family members refrains from seeking employment in order to care for children. It is also likely that some of the recognized refugees will take up studies. For the baseline scenario, a labor market participation rate of 80 percent is assumed; this ratio is slightly above the average for all workers in Germany in order to reflect the fact that the proportion of young and male refugees, in particular, is very high—and exactly this group shows a high inclination to work. Deviations of five percentage points each in both directions are taken into account.

The deciding factor regarding the employment effects is the unemployment rate among accepted refugees. Although little data is available here, there is much evidence that unemployment is initially very high among recognized refugees, probably because many refugees do not immediately have the required qualifications, starting with language skills. The longer the refugees remain in Germany, however, it can be assumed that these obstacles will be gradually overcome, and thus the unemployment rate will slowly decrease over time.

In the baseline scenario, it is therefore assumed that in the first year only four out of ten job seekers will find employment—and even in the optimistic scenario, only every other job seeker will. Though the unemployment rate is expected to decrease as the refugees' qualifications increase, it will still be significant even ten years from now. This is suggested by data on individuals living in Germany who came from other countries: For example, the proportion of employed social security-obligated people originally from Syria stands at only 30 percent.² However, this ratio does not take into account mini-jobbers, civil servants, or self-employed workers. Marginal employment, i.e. mini-jobs, however, is expected to be an important form of work for the current influx of refugees.

In addition, the skill level of many refugees could be comparatively low even in the future; it can therefore be assumed that they will be employed primarily in low-skilled jobs. According to the Socio-Economic Panel (SOEP) surveys on average salaries,³ the productivity of individuals in minor employment (people engaged in a job for which only an orientation is required) is one-third below average. This value is likewise assumed for the average productivity of refugees. It is conceivable that the productivity is actually lower at the beginning, and only gradually approaches the average level of low-skilled workers; this corresponds to the “pessimistic scenario.”

Costs to the government

In the current debate, the positive effects of refugee migration are not being discussed to the same extent as

are the associated expenditures, which comprise the initial direct costs for the care, accommodation, and integration of the newly arriving refugees. An annual total of roughly 12,000 euros per refugee seems plausible in this context; this corresponds to approximately one third of the average per capita income. Furthermore, there are the costs of providing social benefits to refugees who have a residence permit, but either are not available to the labor market or cannot find employment. Both cases are based on an average amount that encompasses Hartz IV payments and housing benefits, and stands at 20 percent of the average per capita income; this currently corresponds to about 7,200 euros per year. This cost structure is taken into account in a favorable alternative scenario, because in the baseline scenario, significantly higher costs are already assumed. In the scenario in which chances and risks are assumed to be less favorable, costs are actually assumed to be twice as high.

For asylum seekers whose application has been rejected but who are nevertheless “tolerated” in Germany, a flat rate equal to fifteen percent of the average per capita income is assumed (this currently amounts to roughly 5,400 euros); this size is of secondary importance to the results not only because this group of people is small and will gradually leave Germany, but also primarily because the results are qualitatively robust to changes in this factor.

Boosts in supply and demand

As established above, the current debate focuses too much on the governmental costs of supporting the refugees, thus ignoring the positive economic effects that will come about as a result of two mechanisms: First, refugees who find work stimulate the economy on the supply side by contributing to corporate production.

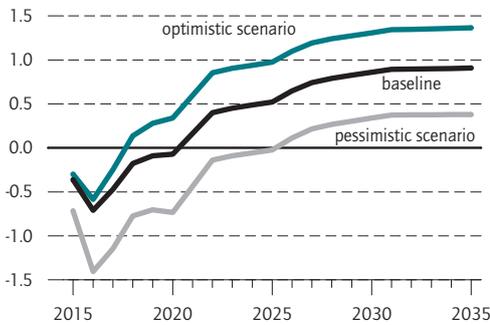
Second, the refugee-related expenditures are accompanied by positive economic demand impulses, because higher demand helps businesses overall. Even the monetary transfers, such as those that accrue to the refugees whose applications are approved but who do not pursue employment, lead to increased consumer demand. This consumer demand is partially served by higher imports, but it also boosts the domestic production—which amounts to a multiplier of less than 1. In addition, public investment in the creation of housing for refugees and the governmental social benefits that arise, for example, for the care of refugees, increase the economic performance to the same extent. Since some of these measures increase household income, which in turn increases demand, these expenditures lead to a disproportionately high increase in aggregate demand; its multiplier is therefore likely to be higher than, or at least close to 1. To assess the effects that arise in the macroe-

² Brenke, K. (2016): *Asylsuchende*. In: Federal Statistical Office; German Institute for Economic Research; Social Science Research Center Berlin (ed.): Data Report 2016 (forthcoming).

³ The German Socio-Economic Panel (SOEP) is the longest and widest-ranging multidisciplinary longitudinal study in Germany. Every year since 1984, several thousand people are surveyed by the fieldwork organization *TNS Infratest*. Currently, the survey encompasses roughly 30,000 respondents in approximately 15,000 households. Among other things, The SOEP data provide information about income, employment, education, health, and life satisfaction. Since the same people are interviewed every year, not only can long-term social trends be particularly well analyzed, but also the group-specific development of life trajectories.

Figure 1

Benefits from successful integration net of costs¹
In percent of GDP



¹ Production increase due to additional demand and refugees' labor supply net of cost for care, accommodation, and integration of the newly arriving refugees as well social transfers for non-employed refugees.

Source: Own calculations.

© DIW Berlin 2015

After several years positive effects dominate the costs.

economic cycle, a model is required that maps out these relationships and their mutual effect.⁴

In short, a perspective that attempts to measure the economic value of the refugees solely based on their direct taxes and obtained government benefits is false and misleading. Rather, a broader perspective is required that takes into account not only the direct tax revenue and government transfer payments, but above all incorporates the refugees' contribution to the economic performance.

Results

Using the assumptions made here, the potential expansionary impetuses can be compared to the costs.⁵ In all three scenarios under consideration, it is clear that the costs initially predominate (Figure 1)—yet the positive effects predominate in the long run. When the investments from the first year end up paying dividends is de-

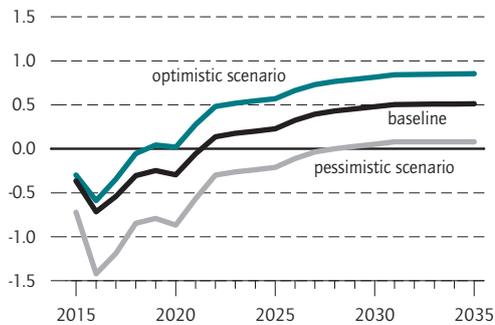
⁴ For the study at hand, a conservative multiplier of 0.5 is chosen; in the pessimistic scenario, the multiplier is set even lower. The choice of a low multiplier means that this study's calculations primarily factor in the direct effects. Indirect effects may be small, but generally positive. These are thus partly excluded.

⁵ Preliminary calculations based on alternative assumptions; in addition to a significantly lower immigration assumed for 2015 and 2016, these differed in particular from the more positive assessment of employment opportunities presented here. This report shows that even under less favorable labor market assumptions, the integration of refugees leads to positive effects in the long term.

Figure 2

Change in per-capita income of people living in Germany already¹

Change in percent vis-à-vis a scenario without refugees



¹ The initial net effect is negative, since costs are hardly offset by additional demand; the value of e.g. -0.7% in 2016 implies that per-capita income is 0.7% lower compared to a counterfactual without refugees. The value of 0.5% in later years shows, however, that eventually, as more and more refugees successfully participate in the labor market, per-capita income will be 0.5% higher for people who already live in Germany, e.g. because they participate in the value added by refugees.

Source: Own calculations.

© DIW Berlin 2015

Even in the pessimistic scenario, per-capita income eventually increases.

pendent on a variety of assumptions, but even in an unfavorable configuration, such as the pessimistic scenario, the break-even point appears rapidly, only a few years later than it does in the baseline scenario.

Yet it is not only the overall economic performance that increases. Although in the absence of further research the additionally generated income can only be approximately broken down into the share accrued by the refugees and the share that benefits the people already living in Germany, an increase in the per capita income for the latter group also emerges after a few years, assuming that the costs—as well as the additional demand impulses—are to be fully borne by this group, whereas the refugees receive the value added achieved through additional labor corresponding to the share of employee compensation in the economic performance (Figure 2). This takes into account that the long-term expenditures for accommodation, care, and integration and for the social benefits are essentially transfers to the refugees from the people already living in Germany.

Because over time, as the refugees' labor market opportunities increase along with their qualifications—and in the pessimistic scenario, their productivity as well (starting from a very low baseline)—the people already

living in Germany profit indirectly from the increasing demand impulses, as well directly from the value added of the refugees, because profits from entrepreneurial activities related to the employment of refugees partially go to them.

The calculations in this study are based on a simple methodological framework, and in many respects there exists an obvious need for further research of the individual impact channels in more detail and to pinpoint and validate the plausibility of the assumptions made here. Nevertheless, the results show that the costs associated with the integration of refugees should be seen as an investment in the future. Even in the pessimistic scenario, the per capita income of those already living in Germany will increase in the long term (after a little over than ten years); in the most favorable scenario, the positive effect can actually come about more rapidly, even after just four or five years.

Conclusion

The influx of refugees into Europe is presenting the member states with major challenges—and as one of the refugees' main target destinations, Germany is particularly affected. Because current debate focuses mainly on the short-term costs arising from housing, care, and

societal and labor market integration, it is easy to lose sight of the fact that these costs are actually an investment in the future. This present study shows that over the long term, the net contribution of refugee migration to the overall economic performance will be positive.

Moreover, this effect withstands the following assumptions: Even in a very unfavorable case—assuming a once again significantly lower productivity among refugees and costs that are twice as high as those in the baseline scenario—integration is still an investment that will pay off in the long run. Finally, the positive effects apply not only to economic performance; individuals already living in Germany will benefit in the long term through a higher per capita income. In the light of the humanitarian obligations to take in and integrate refugees, debates on alternative uses of the allocated resources continue to be theoretical in nature. That is why it is even more important to actually show the potential of these expenditures. If it is possible to integrate even just some of the refugees into the labor market, the investment already pays off. Nonetheless, the large number of refugees also presents certain risks: It is difficult to predict to what extent the labor market will absorb the low-skilled workers, and in order to give an exact estimate of the potential due to the migration of refugees, further research is needed.

Marcel Fratzscher is President of the German Institute for Economic Research (DIW Berlin) | mfratzscher@diw.de

Simon Junker is Deputy Head of Department of Forecasting and Economic Policy at DIW Berlin | sjunker@diw.de

JEL: O15, J11, E24

Keywords: Income distribution, migration, demographic trends, macroeconomic effects, unemployment, productivity