

# Safety net still in transition: labour market incentive effects of social support in Poland and Germany

Peter Haan<sup>\*</sup>, Michal Myck<sup>#</sup>

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## Abstract

Many aspects of the economic transition which started in 1989 in Poland are by now complete. However, the route Polish governments have so far taken concerning the system of support for low-income families still implies very different poverty alleviation schemes compared to those found in many developed countries. We examine the Polish system of social assistance in a comparative context with Germany and focus on its implications for financial incentives to work. The paper shows the effect of extending the financial support system for poorest families in Poland on labour market incentives. We demonstrate that assumptions concerning sharing of resources among families within households have significant implications on the resulting financial incentives and importantly change the implied consequences of the reforms. This is the case especially for single-adult families. 74% of single adults without children, and 53% of lone parents in Poland live in multi-family households. Given the limited role of the state in providing a means-tested safety net, these multi-family arrangements play an important role as far as alleviating poverty is concerned, but they also have significant implications for incentives on the labour market.

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<sup>\*</sup> Goethe University in Frankfurt; DIW-Berlin; Centre for Economic Analysis (CenEA) in Szczecin; e-mail: phaen@diw.de.

<sup>#</sup> Centre for Economic Analysis (CenEA) in Szczecin; DIW-Berlin; Institute for Fiscal Studies; e-mail: mmyck@cenea.org.pl.

## 1. Introduction

There is always a difficult trade-off between the objectives of increasing employment through work incentives and reducing the number of households who fall below the poverty line. Finding the right balance between the objectives of efficiency and equity is no easy task for any government. In numerous developed countries, especially in Western Europe, the welfare system has been often criticised for focusing too much on the latter goal at the cost of making wages insufficiently attractive in relation to out-of-work benefits, in particular for low skilled persons (Blundell 2001; Immervoll et al. 2007). In some other countries, including many so-called transition economies, as a result of significant fiscal pressures the safety net tends to provide little means-tested support for the poorest families. In this paper we focus on the social assistance provision in Poland, a representative of the second group of countries, and analyse how extending support to the poorest households would affect their labour market incentives. We set the analysis in a comparative context with Germany, a country often chosen as an example of the first group with a relatively generous welfare system.

The first striking difference between Germany and Poland from the point of view of policymaking is a seeming paradox observed in Poland which could cast doubts on how strong the efficiency-equity trade-off really is there. While in Germany the low employment rates and high levels of unemployment, at least to some extent, relate to the generosity of the welfare state, in Poland the lack of generous state support out of work at first sight finds little reflection in high levels of employment. On the contrary, Poland has one of the lowest employment rates in Europe. Thus, in Poland low levels of government out-of-work support seem to go along with low labour market participation. Work incentives provided by the fiscal system could thus be judged to have relatively low effects on labour supply. This paradox will be of central importance to our analysis and the interpretation of our findings.

Our analysis highlights the consequences of the non-generous transfers system on poverty in the Polish society. Although pensions and informal transfers, such as within-household sharing of resources ameliorate the financial circumstances of many individuals, they seem to be insufficient in the successful alleviation of poverty. According to the World Bank Country Brief 2003 7 million or more of Poland's population (about 18%) fall below the poverty line, and poverty is more widespread in Poland than in other advanced transition economies of Central Europe such as Hungary and the Czech Republic. These findings were confirmed in a recent OECD study which compared poverty rates based on mid-2000s data (OECD 2008). In the Polish Household Budgets Survey 2005 data (*Badanie Budżetów Gospodarstw Domowych, BBGD*), which we use in this paper, 18.6% of individuals live in households with equivalised income below 60% of the median equivalised income and over 21% of all children live in households below this poverty line.<sup>1</sup> While the situation of many households has improved in the last several years, the poverty problem remains a significant policy concern.

Our paper focuses on one of the principal tools that the government in Poland has at its disposal with respect to reducing poverty, namely the Temporary Social Assistance. In many developed market economies, especially in Europe, social assistance programmes are characterised

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<sup>1</sup> These calculations use the Central Statistical Office definition of disposable income. Median monthly equivalised income in 2005 in Poland was 997.4 PLN.

by relatively generous out-of-work benefits which are withdrawn at high marginal rates (close to and sometimes exceeding 100%) at low earnings levels (e.g. Immervoll et al. 2007; Laroque, Salanie 2002; Haan, Myck, Morawski 2008). They therefore provide only moderate or no financial labour supply incentives, in particular for low wage individuals. While a similar scheme is officially in operation in Poland, the majority of social assistance payments is at the discretion of local governments, which quite strictly limit payments to the proportion guaranteed by the central government. This implies very low levels of social assistance payments and withdrawal rates of much less than 100%. On top of this restriction there is also a strict informal wealth-test which significantly limits the number of eligible households. It is this combination of strict eligibility conditions and low amounts of benefits which on the one hand results in strong labour market incentives among those whom we consider to be “labour market flexible”, but on the other implies low incomes of households at the bottom of the income distribution.

In the light of high relative poverty rates in Poland the direction which the policy concerning poverty alleviation should take in the next few years is an important issue. The finding that despite such low levels of out-of-work support, employment levels are still so low in Poland has potentially very significant implications for policy design. If the current tax and benefit system functions alongside such low employment rates, then pursuing the goal of poverty reduction would risk significant further reduction in the level of employment. Extending the Polish welfare design in the direction of the German (or more broadly Western European) system by increasing means-tested out-of-work benefits could reduce poverty but only at the cost of worsening work incentives. We provide analysis of three hypothetical scenarios of extending the Temporary Social Assistance in Poland.

In this context, the contribution of our paper is two-fold. First, we provide evidence about the incentive structure of the tax and benefit system in a post-communist transition country (Poland), in a comparative context with a Western European system well known for the generosity of its welfare design (Germany). While the German system and its implications for the labour market have been analysed in a series of studies (see e.g. Bonin, Kempe, Schneider 2003 or Haan, Myck 2007), evidence about work incentives of the Polish tax and benefit system with application to representative data has so far been essentially non-existent.<sup>2</sup> We use this comparative analysis to discuss in detail the above mentioned Polish paradox of high work incentives and low employment rates. As we will show, this paradox is largely due to the informal system of support within households which generates very different work incentives than the transfer system of the government. Changes in the demographic structure of households have been shown to play an important role in determining poverty rates in many OECD countries (OECD 2008) and have been responsible for about 15% of the increase in the measured poverty rate in Germany between 1991 and 2007 (Peichl, Pester, Schneider 2010). Differences in household structure are thus likely to play an important role in comparative analysis not only of poverty, but also of issues related to financial incentives, like labour market participation. Interestingly while in 2005 Germany had one of the lowest average household sizes among OECD countries, Poland had one of the highest (OECD 2008).

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<sup>2</sup> An earlier paper by Haan et al. (2008) provides examples of consequences of the Polish tax and benefit system in 2005 in comparison with Germany and the UK, but it is based on stylised households rather than on actual data.

On top of the demographic factors, incomes from the shadow economy and more recently incomes from work abroad may further influence incentives on the labour market. Unfortunately due to data limitations we cannot reliably account for these two sources of income. It may be that whatever is left of the paradox could still be explained with more detailed information on income sources. For these reasons we refrain from an econometric estimation of labour supply behaviour, which has been conducted for most of the Western European countries with the use of the method suggested by Aaberge, Dagsvik, Steinar (1995) and van Soest (1995). As our paper makes clear, further research on labour supply behaviour accounting for both governmental and non-governmental transfers will be necessary to derive reliable results concerning labour market behaviour of Polish households.

Secondly, we analyse the potential implications of moving towards Western European social assistance schemes, some form of which will be necessary if the government wants to reduce the extent of poverty in Poland. In this analysis we present the effects of the reforms under several assumptions concerning within-household sharing of resources. We show that especially for single adults (both with and without children) the assumed degree of resource sharing within households is an important determinant of the estimated effect of reforms on financial incentives to work. We find that a reform of the social assistance system would significantly reduce poverty yet only at relatively high costs in terms of work incentives. Replacement ratios in a regime with higher out-of-work transfers imply a markedly lower relative financial reward of work. For single adult families and for first earners in couples this effect is dampened by the effect of resource sharing within households, but even in this case mean replacement ratios increase by about 30% for singles, and almost double for first earners in couples in response to the most generous form of the hypothetical Social Assistance reforms we model. We argue that the potential negative labour market consequences of extending support for poorest families could be combined with various forms of increasing the financial attractiveness of employment through subsidies for persons taking up employment or means-tested in-work credits, similar to programmes in the UK or the US.

## **2. Benefit systems in Poland and Germany**

Public social expenditure in Germany has been consistently higher than in Poland over the 2000s, both in absolute and relative terms. As we show in Table 1 it has amounted to about 27% of the GDP in Germany and about 22% in Poland. Except for the year 2000 the difference in social spending was not reflected in the overall tax burden which has been generally lower in Poland by about 2 percentage points. Moreover, social expenditure in Poland was lower despite the much lower levels of employment and much higher levels of unemployment – at least until 2007. The structure of social expenditure in Poland has also been significantly different. For example in 2005 social expenditure on family related policies in Germany amounted to 3.2% of the GDP and in Poland only to about 0.8% (see European Commission 2008 for more details and Levy, Morawski, Myck 2009 for discussion). Some of these differences are related to high levels of early retirement and disability pension claims in Poland among individuals below the official retirement age, but a substantial part is a consequence of less generous non-pension benefits, which are the focus of this paper.

Table 1  
Economic indicators over time, Germany and Poland

	2000	2001	2002	2003	2004	2005	2006	2007
Germany								
Employment rate	65.6	65.8	65.3	64.6	65.0	65.5	67.2	69.0
Unemployment rate	7.5	7.6	8.4	9.3	9.8	10.6	9.8	8.4
Public social spending	26.2	26.3	27.0	27.3	26.7	26.7	–	–
Total tax as % of GDP								
Poland	37.2	36.1	35.5	35.5	34.8	34.8	35.6	36.2
Employment rate	55.0	53.5	51.7	51.4	51.9	53.0	54.5	57.0
Unemployment rate	16.2	18.3	20.0	19.7	19.0	17.8	13.9	9.6
Public social spending	20.5	21.9	22.3	22.3	21.4	21.0	–	–
Total tax as % of GDP	31.6	33.5	36.3	32.9	32.3	32.9	33.5	–

Source: OECD Statistics 2009, <http://stats.oecd.org>.

This section provides an overview of the Polish benefits system and sets it in comparison to the legislation in Germany. The system description below draws heavily on Sections 2.2 and 2.3 in Haan, Myck, Morawski (2008).

## 2.1. Means-tested support in Poland

The most important elements of the 2005 Polish means-tested benefits system were the Family Benefits (FBs), the Housing Benefit (HB) and Social Assistance (SA). Together with the Polish tax system of that year they have been described in detail in Bargain et al. (2007).

In 2005 the FBs were received by about 22.6% of all households in Poland. They are specific benefits directed at families with children and include the basic Family Allowance, the Nursing Allowance and the Parental Leave Allowance with additional supplements such as the Supplement for Lone Parents (SLP), and the Supplement for Large Families. The FBs are conditional on previous year's income of the family and are paid if the average monthly income does not exceed 504 PLN *per capita* or 583 PLN if there is a disabled child in the family. The amounts of the basic Family Allowance in 2005 were:

- 43 PLN for a child aged less than 6 years,
- 53 PLN for a child aged 6–18,
- 66 PLN for a child aged 19–25.

In 2005 the FA was paid to about 5.2 million children. Out of the supplements the SLP was by far the most commonly received (0.7 million families) and the most generous with the average monthly value of about 176 PLN.

The Housing Benefit was received by approximately 0.76 million households in 2005, i.e. about 5.7% of all households in Poland and provided assistance related to housing expenses. The eligibility criteria include income and flat size which cannot exceed specified limits conditional

on the number of people living in the household.<sup>3</sup> The eligible amounts of the HB relate to the cost of rent and other household expenses. In 2005 the average monthly amount of the HB was 135.10 PLN per household.

Social Assistance benefits play the role of the last resort safety net. However they are the least common of the means-tested benefits in Poland. Permanent Social Assistance (PSA) benefits are paid to those who are unable to work due to age or disability and who are not entitled to a social insurance disability or retirement pension. The value of the benefit was computed as a difference between a threshold (461 PLN and 418 PLN per month for single and multi-person families respectively) and the family *per capita* income. The average monthly value of the PSA was 311.60 PLN per family and the benefits were paid to about 0.14 million families. The second element of the SA system, i.e. the Temporary Social Assistance (TSA) scheme is constructed as a top-up benefit, and the TSA is meant to be the last resort safety net. It is conditional on the family having “insufficient resources” and meeting certain social criteria which are, however, sufficiently broad to include most families in difficult financial circumstances. However, the criteria to be met with respect to “insufficient resources” are very strict and limit the number of recipients of the TSA to only about 0.3 million families. Below we present the details of the operation of the Temporary Social Assistance in Poland and discuss the way in which the specific eligibility rules have been modelled in SIMPL, the Polish micro-simulation model.

### Temporary Social Assistance

The TSA is supposed to assist families in “temporary” difficult financial circumstances. The temporariness of this element, relates, however, more to the possibility of improvement of family circumstances rather than to some specific rules regarding the period of payment. Eligibility criteria for the TSA relating to “insufficient resources” cover two dimensions, namely wealth and income, and the approach could be considered very similar to the criteria applied in most Western European countries, with two very important exceptions. First of those relates to the type of wealth test applied, and second to the method of computing and payment of eligible amounts.

The wealth related conditions for the Temporary Social Assistance are a crucial feature of the Polish system. The wealth test, on the basis of which a family is judged eligible or not eligible for the TSA takes a form of an informal assessment of the family’s resources. This is conducted by a representative of the local Social Assistance Centre who gives an overall assessment of the resources of a given family. Subject to this judgment the family is granted the Temporary SA or the application is rejected.

The second peculiarity of the Polish TSA system concerns the computation of amounts of the benefits paid to families. The central SA legislation specifies the minimum income levels below which families’ disposable incomes ought not to fall. This amount depends on the demographic structure of the household. In 2005 the monthly value used for the calculation of the household level minimum was 316 PLN per person, regardless of age, with the exception of single adult households

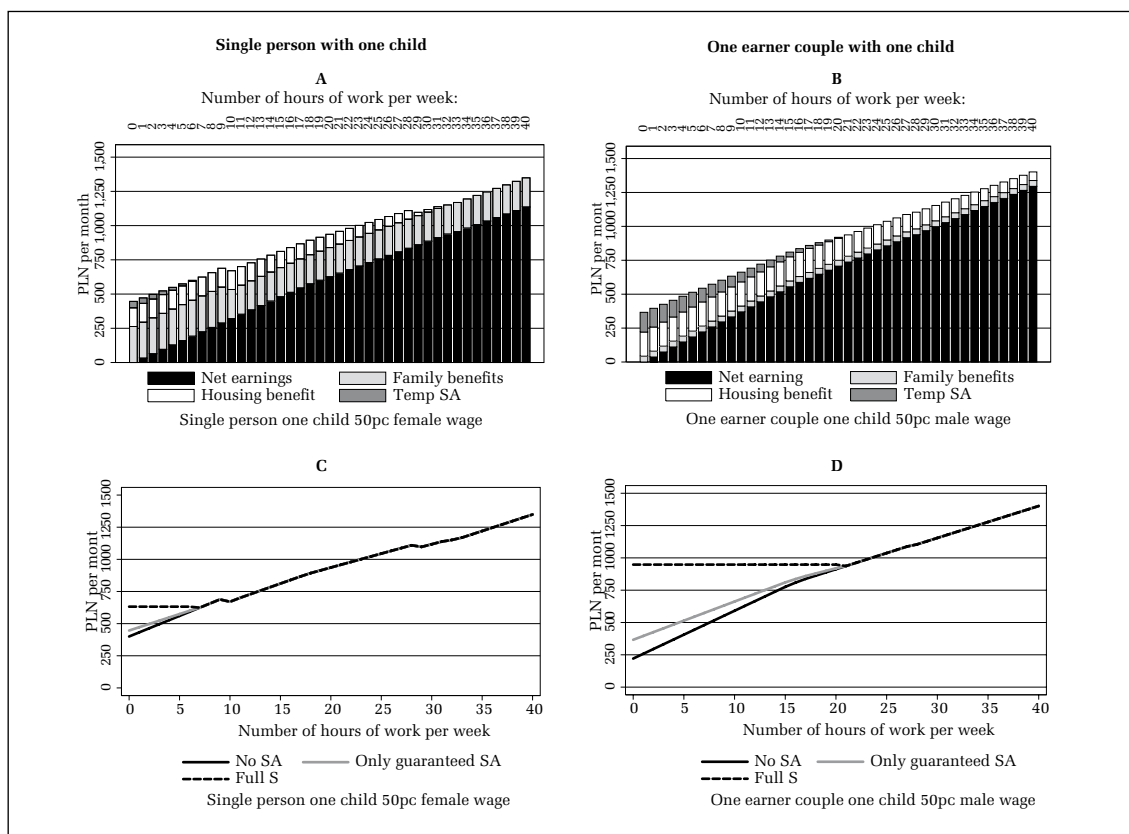
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<sup>3</sup> The income criterion in 2005 was 125% or 175% of the official Minimum Pension, which was 562.58 PLN, *per capita* for single and multi-person households respectively, and the amounts paid are withdrawn as income rises at rates which depend on household size and *per capita* income.

in which case the value was 461 PLN for the adult (and 316 PLN for any children). The legislation implies that the actual amount of the TSA paid to families should cover the difference between the actual income and the specified minimum. This is a common feature of Social Assistance schemes in many Western European countries, resulting in most cases in 100% withdrawal rates. However, the Polish central government guarantees only a proportion of the difference between the legislated minimum and the actual family income. This proportion is 20% for multi-person households or 30% for single person households. The payment of the remaining 80% or 70% is left at the discretion of local governments, which often prefer to spend their resources differently. According to unpublished government statistics only about 16% of the total spending on the Temporary SA comes from the local governments.

The partial coverage of the minimum income has two important consequences for the budget constraints. First of all it significantly reduces the amounts of benefits paid to families in the out-of-work scenarios. Moreover, because the minimum income with reference to which the amounts get computed exceeds the amounts paid, the withdrawal rate of the TSA is significantly below 100% with respect to changes in net income prior to the SA assessment.

Figure 1  
Components of disposable income in Poland – various SA scenarios, 2005



Note: values presented in PLN (Polish zloty). Assumed wages are the median female and male wage, which in full-time monthly terms are respectively: 1536.60 PLN and 1774.50 PLN.

Source: calculations using the SIMPL micro-simulation model.

Figures 1A and 1B present budget constraints drawn for two stylised families, a lone parent with one child and a single-earner couple with one child. They have been drafted assuming that the families receive only the part of the TSA which is guaranteed by the central government.<sup>4</sup> As we can see increasing net earnings do not lead to one-for-one withdrawals of benefits, and although the TSA is reduced it continues to be paid up to the level of gross earnings of about 355 PLN/month in the case of the lone parent and 910 PLN/month in the case of a one earner couple. Panels C and D of Figure 1 demonstrate the difference between the legislated and the actually paid amounts of the TSA. The budget lines are drafted in scenarios with no Temporary SA, with the guaranteed level only, and with full legislated amount of the benefit paid to the families. As we can see the legislated values of the minimum income are relatively high compared to incomes in work. This is especially the case for couples who receive relatively low payments of Family Benefits.

The budget constraints presented in Figure 1 show the level of support through the TSA which is paid out to families conditional on their income. However, as we mentioned earlier before the income test is applied the families need to be judged eligible with respect to their wealth. As will become clear in the analysis below the wealth restrictions in Poland are extremely severe.

An obvious difficulty in terms of the modelling of the Temporary Social Assistance in Poland is the informal nature of the wealth test. Unlike in many developed Western European countries the test does not limit availability of Social Assistance on the basis of the level of savings or other assets, but relies on the assessment of a representative of the Social Assistance Centre. An informal test of this kind is of course impossible to account for precisely in a micro-simulation model. What we do to proxy this test is to generate an expected probability of receiving the Temporary SA conditional on wealth-related characteristics of the household (like flat area and ownership, household equipment, region, etc.), and then calibrate a threshold level of this expected probability below which households do not qualify for the Temporary SA. The calibration is conducted in such a way that the number of recipients of the Temporary SA in the micro-simulation model is the same as the number of recipients in the official administrative statistics.<sup>5</sup> The calibrated threshold of the expected wealth test measure for the 2005 data is 0.125. This implies that only about 5.2% of all households in our data will be considered for the receipt of the Temporary SA in the base 2005 system.

Once the wealth test and the income means-test are combined only about 2% of all households receive the Temporary SA. Grossed-up to the population total this is only about 300,000 households (of the total of about 13.3 million households in Poland). We need to bear these statistics in mind in the analysis and interpretation of replacement ratios below, and in the examination of potential reforms of Social Assistance considered in this paper in Section 5.

## 2.2. Means-tested support in Germany

In contrast to Poland, the German system can be characterised as a traditional welfare system. Most benefits are targeted to individuals out of work, and the benefits are highly withdrawn as

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<sup>4</sup> Further assumptions made in drawing the figures were that the earners in the families receive 50th percentile female and male wages, that the lone parent lives in a 30m<sup>2</sup> flat, the couple in a 40m<sup>2</sup> flat, and that the house-related bills of the families are at respective 25th percentiles for the given family type.

<sup>5</sup> More details of the procedure can be found in Myck (2007).



soon as people start working. This implies that at the bottom of the earnings distribution the marginal tax rates are very high, sometimes close to 100%. Except a very minor programme, the child supplement, in Germany there exist no transfer programs conditional on work, such as in the UK or in the US. The most important means-tested transfer programme is Arbeitslosengeld II (Social Assistance, ALGII). The basic amount of that transfer for a single household is 345 EUR for West and 331 EUR for East Germany. A partner receives slightly less, i.e. 311 EUR and 298 EUR respectively while for children the basic amount is roughly 200 EUR depending on the age and region. In addition to the basic amount the household receives support for housing and heating. ALGII is means tested against all sources of income - taxes and social security contribution are deducted – including child benefits and maintenance payments. The withdrawal rate varies between 70% and 85% and above 1200 EUR per month (1500 EUR per month for persons with children) the withdrawal rate is 100%. The German system therefore guarantees that households receive at least some minimum income and thus provides protection against poverty. However, this design leads to the above mentioned efficiency loss in terms of work incentives for the poor.<sup>6</sup>

Thus in comparison to Germany, the Polish social assistance design appears to be a highly restrictive system, paying low amounts of support to a very limited group of the population. Below we present the Polish tax and benefit system in comparison with the German system and demonstrate the consequences of both systems for incentives to work. We do this by means of a comparison of replacement ratios (RRs), i.e. ratios of income out of work to income in work.<sup>7</sup> In the first approach we follow the standard practice and compute RRs on the level of the family.<sup>8</sup> The advantage of using RRs is that they allow to combine the tax and benefit system with information on the wage distributions and individual or household characteristics. Moreover they reflect work incentives in a relative way and so make the comparison between such countries as Poland or Germany, with still high differences in the level of wages and disposable income, much more fruitful than comparison of absolute values.<sup>9</sup>

### 3. Taxes, benefits and labour market incentives in Germany and Poland

#### 3.1. Data

Data for the empirical analysis in this paper come from country specific household surveys, the German Socio-Economic Panel (SOEP) for Germany and the Household Budgets Survey (*Badanie*

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<sup>6</sup> For a detailed discussion on incentive effects of the Polish and German tax and benefit systems see Haan, Myck, Morawski (2008).

<sup>7</sup> This definition of replacement ratios is different from the one often used by the OECD, namely the ratio of average unemployment benefit relative to the average gross wage. Our measure is similar to the one used for example by the Bank of England (Nickell 2001).

<sup>8</sup> Where a family is defined as an adult individual or a couple (married or cohabiting) with or without dependent children.

<sup>9</sup> For example the median full time gross monthly earnings in Germany for men and women in 2005 amounted respectively to 2900 EUR and 2488 EUR. In Poland these values were 452.1 and 391.5 EUR if unadjusted for PPP (i.e. taking the average exchange rate for 2005 published by the National Bank of Poland of e/PLN = 4.0254). When adjusted for PPP (i.e. taking the exchange rate to be: e/PLN = 1.921) the wages were respectively 947.4 and 820.4 EUR. Thus, even if we adjust for differences in price levels in the two countries, wages in Poland were about three times lower than in Germany (mean wages were computed for men and women aged 25-59 using BBGD-2005 and GSOEP-2005.)

*Budżetów Gospodarstw Domowych*, BBGD) for Poland. In both countries we use data for the year 2005. The SOEP is a representative sample of private households in Germany and includes detailed information about the socio-economic situation of over 11,000 households (representing about 38.8 million households in Germany) on a yearly basis. The BBGD surveys annually about 35,000 households in Poland (these represent about 13.3 million Polish households). Both surveys contain detailed information on household incomes, employment status and household structure which is necessary for the analysis of work incentives.<sup>10</sup> To limit the degree of influence of the most obvious systemic differences, primarily in the education and pension systems, we restrict the core sample of interest to individuals aged 25–59. Basic descriptive statistics are provided in Table 2. The analysis is conducted on two subsamples of SOEP and BBGD 2005 data. In each case the first subsample is used for the computation of employment statistics, while the second, which is restricted to families with at least one “labour supply flexible” person, is used in our replacement ratios analysis and reform simulation. Individuals are classified as “labour supply flexible” if they are not a pensioner, a day-time student or self-employed, and fulfil our age criterion. Couple households in which one spouse is not “labour supply flexible” are part of the sample but only the behaviour of the flexible spouse is analysed.

Table 2  
Descriptive statistics for Poland

	RR sample		Employment sample	
	men	women	men	women
Number of observations	20,809	22,008	24,547	26,963
Number of singles	3,132	4,331	4,592	6,186
– with children aged 0–16	93	1,412	143	1,692
Number of couples	17,677	17,677	19,955	20,777
– with children aged 0–16	10,797	10,797	11,511	11,245
Proportion by age (in %)				
below 25	0.39	2.32	–	–
25–34	28.82	30.15	26.85	25.84
35–44	27.52	28.19	25.86	24.97
45–59	41.97	39.15	47.29	49.18
over 59	1.30	0.19	–	–
Proportion receiving a pension (in %)	10.10	5.43	17.06	19.52

Source: BBGD (2005).

Regardless of the sample, two interesting facts emerge from these descriptive statistics. The age distribution in Poland and Germany is quite different. While in Poland the distribution over the age groups is fairly even, the baby boom and the stark drop in birth rates thereafter becomes

<sup>10</sup> A description of the GSOEP can be downloaded from [www.diw.de/soep](http://www.diw.de/soep), while a description of the BBGD can be found in Bargain et al. (2007).

Table 3  
Descriptive statistics for Germany

	RR sample		Employment sample	
	men	women	men	women
Number of observations	4,767	4,954	5,744	6,101
Number of singles	697	884	1,035	1,171
– with children aged 0–16	20	291	28	329
Number of couples	4,070	4,070	4,709	4,930
– with children aged 0–16	2,100	2,100	2,223	2,213
Proportion by age (in %)				
below 25	0.10	0.47	–	–
25–34	17.43	24.55	22.59	25.07
35–44	36.85	38.19	34.55	34.31
45–59	45.72	37.26	42.63	40.62
over 59	3.91	0.35	–	–
Proportion receiving a pension (in %)	1.76	1.26	3.68	3.14

Source: SOEP (2005).

obvious when comparing age groups 25–34 and 35–44 for Germany. The second striking difference between Germany and Poland which will be more crucial for the following analysis is the far higher share of Polish men and women in the age group 25–59 who receive pensions. While the share for both men and women is below 4% in Germany, it amounts to 17% for men and close to 20% for women in Poland.

### 3.2. Replacement ratios

To present the differences in the social support systems between Germany and Poland we conduct a comparison of replacement ratios simulated with country-specific micro-simulation models, STSM for Germany and SIMPL for Poland. Both models are run on the representative samples of the respective populations which are described in Section 3.1 and account for the details of tax and benefit systems in Germany and Poland.<sup>11</sup> The advantage of micro-simulation is that we can reflect the heterogeneity of households rather than look only on stylised examples.

#### Computing replacement ratios

Below we present the method adopted for the computation of replacement ratios (RRs), i.e. the ratios of income out of work to income in work.

<sup>11</sup> For detailed descriptions of the micro-simulation models see Bargain et al. (2007) for SIMPL, and Steiner, Haan, Wrohlich (2005) for STSM.

We use the sample of “labour market flexible” individuals (see Tables 2 and 3), and compute RRs separately for three types of benefit units:

- single individuals (with and without dependent children);
- couples with both “LS flexible” partners;
- couples with only one “LS flexible” partner.

RRs for single individuals are computed as:

$$RR_{0,j}^s = Y_{j(0)} / Y_{j(1)} \quad (1)$$

where  $Y_{j(0)}$  is income out of work and  $Y_{j(1)}$  is income in (full-time) work of a single adult family  $j$ . The 0 subscript  $RR_{0,j}^s$  is to distinguish these RRs from the rates computed below for different assumptions about within-household sharing of resources.

For couples with both “LS flexible” partners we compute four sets of family-level incomes, conditional on employment of either of the partners:

- $Y_{(1,1)}$  – for the scenario where both partners are employed (full-time);
- $Y_{(1,0)}$  – for the scenario where only the man is employed (full-time);
- $Y_{(0,1)}$  – for the scenario where only the woman is employed (full-time);
- $Y_{(0,0)}$  – for the scenario where both partners are not employed.

If only one of the partners is “LS flexible” we compute incomes in two scenarios conditional on his/her employment status:

- $Y_{(1,X)}$  – for the scenario where the “LS flexible” partner is employed (full-time);
- $Y_{(0,X)}$  – for the scenario where the “LS flexible” partner is not employed.

Both of these incomes are computed conditional on the recorded status of the other partner. This leads to four sets of replacement ratios computed for couples:

$$RR_{0,j}^{c1} = Y_{j(0,0)} / Y_{j(1,0)} \quad (2)$$

$$RR_{0,j}^{c2} = Y_{j(0,0)} / Y_{j(0,1)} \quad (3)$$

$$RR_{0,j}^{c3} = Y_{j(1,0)} / Y_{j(1,1)} \quad (4)$$

$$RR_{0,j}^{c4} = Y_{j(0,1)} / Y_{j(1,1)} \quad (5)$$

For families where both partners are “LS flexible” we compute all four of these replacement ratios. For those with only one “LS flexible” partner we compute two RRs, keeping the income of the other partner as fixed. In the latter case if the “LS inflexible” partner is a student or a pensioner we compute RRs for the “LS flexible” partner according to equation 2 or 3, while if he/she is working (i.e. is self-employed or employed and out of the sample age range) we proceed according to equation 4 or 5.

### 3.3. Family-level replacement ratios in Germany and Poland

In Table 4 we show some statistics related to the distribution of replacement ratios for the 2005 tax and benefit systems in Germany and Poland. Full distributions of these replacement ratios are presented in Figure 2. Both Table 4 and Figure 2 show replacement ratios for six groups of individuals:

- single individuals without children (labelled in following tables as: Single NK),
- single individuals with children (Single WK),
- first earner in couple for men (FE – man),
- first earner in couple for women (FE – woman),
- second earner in couple for men (SE – man),
- second earner in couple for women (SE – woman).

Table 4  
Replacement ratios for Germany and Poland, 2005

	Germany			Poland		
	10th perc.	Median	Mean	10th perc.	Median	Mean
Single no children	0.510	0.680	0.664	0.000	0.000	0.087
Single with children	0.612	0.833	0.803	0.188	0.388	0.395
Couple – first earner, man	0.101	0.494	0.475	0.000	0.204	0.225
Couple – first earner, woman	0.140	0.609	0.561	0.022	0.321	0.339
Couple – second earner, man	0.413	0.557	0.556	0.356	0.514	0.516
Couple – second earner, woman	0.535	0.684	0.678	0.497	0.655	0.646

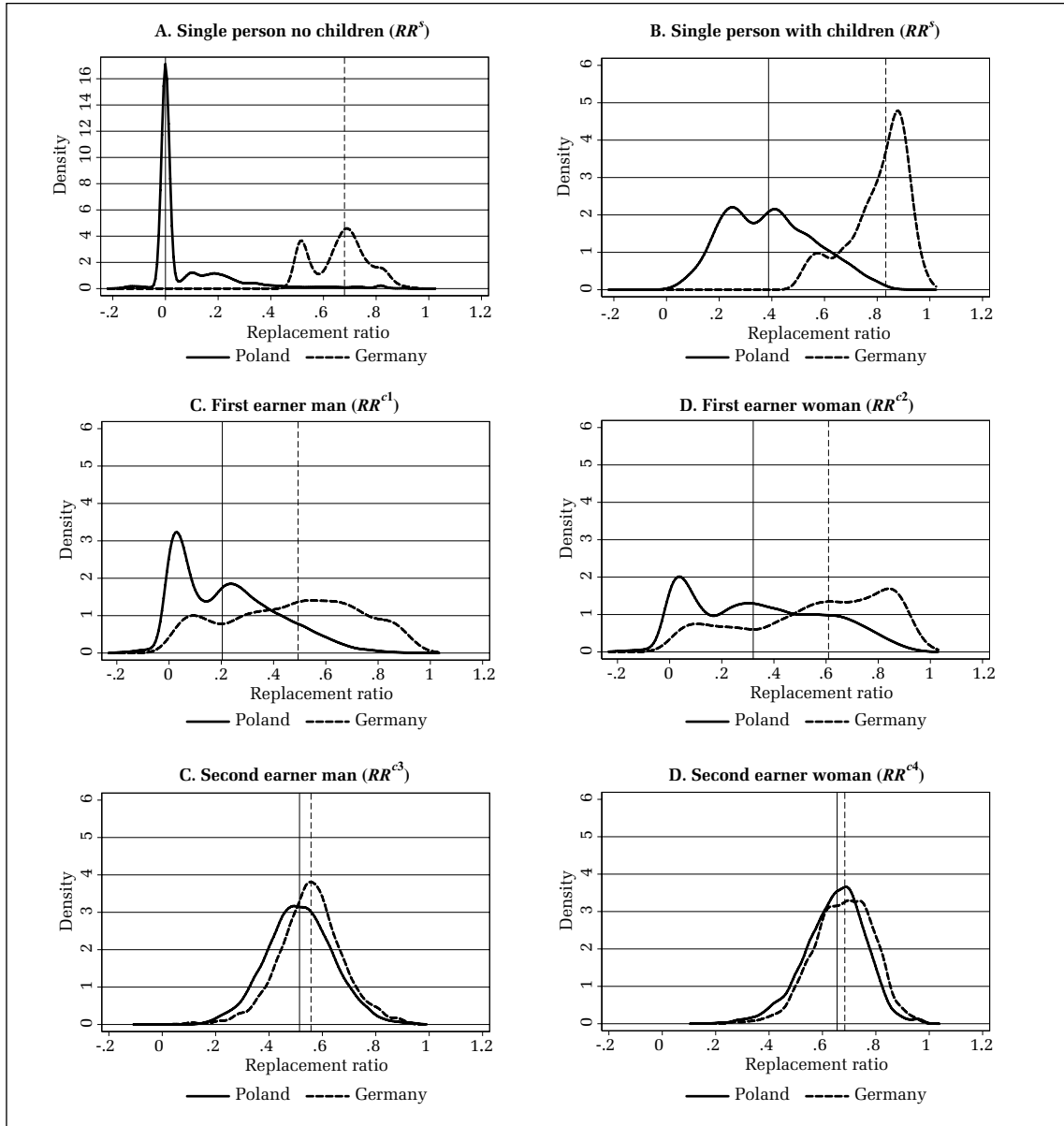
Source: STSM and SIMPL microsimulation models on GSOEP and BBGD 2005 data.

The lower the replacement ratio, the stronger is the financial incentive to take up a job. The relative differences between Germany and Poland in terms of work incentives – calculated at family level – seem to be very clear, especially in the case of single individuals and first earners in couples. Given the very strict wealth test criteria in Poland very many families do not qualify for any Social Assistance, and in cases they are not eligible for housing benefits and family benefits, they receive no social support from the government. Thus, there is a strong concentration of replacement ratios at zero for single individuals without children and for first earners in couples. RRs for single individuals in Germany have bi-modal distributions which is a result of ineligibility of some of them for housing benefits.

Financial incentives to work are very similar for second earners, which is probably partly due to the system of taxation splitting in both countries and similar wage differentials of men and women. RRs for second earners are computed assuming that the other partner is working full time. Thus, in such cases the system of social support is not as important since most families would not qualify for Social Assistance.

Yet, for all categories of individuals we consider, work incentives are weaker in Germany. While the median RR for single people in Poland is 0, the equivalent for Germany is 0.68. In the case of lone parents the figures are respectively 0.39 and 0.83. The median ratio of income out of work to income in work for male first earners is 0.20 in Poland and 0.49 in Germany, and the figures for women are 0.32 and 0.61. Further details, including the 10th percentile of the distribution and the means are given in Table 4. With these disparities in mind we now turn to the differences between the two countries in terms of employment levels to examine how strongly the financial incentives to work, as presented in this section, are reflected in employment statistics.

Figure 2  
 Replacement ratios by family type and partner's employment status, 2005



Note: replacement ratios computed according to formulas 1–5. Vertical lines represent respective median RRS.  
 Source: calculations using SIMPL and STSM micro-simulation models.

### 3.4. Financial incentives and employment – is there a paradox in Poland?

The previous sections, and in particular the comparison of replacement ratios in Section 3 present the Polish tax and benefit system as one which ought to generate high motivation to seek work,

and which provides little financial incentives to leave employment among those who have jobs. It is therefore somewhat paradoxical, that the levels of employment in Poland belong to lowest in Europe, and while the level of unemployment has recently been falling, the rates of employment are still low by comparison with other European countries. This combination implies a rather weak role of financial incentives to work or a very powerful role of labour demand in determining work patterns in Poland.<sup>12</sup> On the one hand, it means that making working more attractive relative to non-working by increasing the minimum wage, lowering taxes, etc., could have only modest effects on increasing employment, but on the other hand it would also suggest that increasing incomes out of work would have limited negative effects on labour supply. As we shall argue in this section, once again setting the Polish labour market in the comparative context with Germany, the Polish case is

Table 5  
Employment rates, Germany and Poland

	Germany			Poland			Poland excluding:	
	All	West	East	All	Urban	Rural	pensioner families	multi-family HH
<b>Singles</b>								
All	77.72	80.15	67.17	55.76	53.81	60.06	65.89	70.54
Men	81.37	83.77	71.75	58.55	55.01	63.85	66.15	75.04
Women	74.29	76.86	62.26	53.80	53.14	55.79	65.69	68.62
Without children	84.40	82.26	71.91	55.88	53.72	60.45	67.49	74.04
With children	62.85	67.76	45.93	55.1	54.29	57.37	58.29	59.85
– youngest child 0–3	42.70	43.44	41.15	37.32	39.11	32.70	37.78	36.11
– youngest child 4–16	64.93	74.90	47.40	57.82	56.55	61.46	61.70	63.26
<b>Men</b>								
All	87.60	88.66	82.66	76.06	73.74	80.00	87.87	88.88
Without children	85.21	86.43	80.16	64.93	63.54	68.06	85.57	87.30
With children	89.99	90.78	85.76	84.4	82.83	86.58	88.92	89.45
– youngest child: 0–3	92.32	93.64	84.69	88.75	88.59	88.97	90.11	90.75
– youngest child 4–6	90.90	91.05	90.09	86.35	85.17	87.94	88.84	89.54
– youngest child 7–16	88.62	89.39	84.59	82.01	79.6	85.29	88.72	89.23
<b>Women</b>								
All	70.03	69.25	73.71	57.18	54.65	61.47	65.92	65.43
Without children	74.11	74.53	72.32	52.93	50.88	57.33	73.17	74.89
With children	65.22	63.26	75.65	60.7	58.30	64.10	62.57	62.14
– youngest child: 0–3	37.94	37.15	42.76	45.94	43.91	49.06	46.21	44.50
– youngest child 4–6	74.68	72.55	85.4	64.18	63.37	65.27	65.13	64.73
– youngest child 7–16	74.07	71.96	84.83	66.23	63.60	69.82	70.03	70.44

Notes: based on populations aged 25–59.

Source: for Germany SOEP, wave 2005; for Poland BBGD, 2005.

<sup>12</sup> See, for example Narożny (2006).

Table 6  
Employment status of couple households, Germany and Poland

	All	Without children	With children	Youngest child 0–3	Youngest child 4–6	Youngest child 7–16
<b>Germany</b>						
Two-earner	64.52	68.78	60.17	36.91	67.33	67.50
Single earner – man	23.86	17.78	30.06	56.02	22.94	21.56
Single earner – woman	7.44	9.03	5.82	3.86	5.62	6.75
No-earner	4.18	4.41	3.94	3.22	4.11	4.19
<b>Poland</b>						
Two-earner	47.28	41.08	51.93	40.02	56.16	56.52
Single earner – man	28.77	23.85	32.46	48.72	30.19	25.49
Single earner – woman	10.69	14.50	7.84	3.66	7.16	9.93
No-earner	13.25	20.57	7.76	7.59	6.49	8.06
<b>Poland, excl. pensioner families</b>						
Two-earner	58.06	63.61	55.51	40.70	58.42	62.87
Single earner – man	29.81	21.96	33.41	49.41	30.43	25.86
Single earner – woman	6.81	8.89	5.86	3.28	5.78	7.14
No-earner	5.32	5.53	5.22	6.61	5.38	4.14

Notes: based on populations aged 25–59.

Source: for Germany SOEP, wave 2005; for Poland: BBGD 2005.

not as different as that of other countries and financial incentives have important implications for labour market outcomes in several groups. The distinguishing features which separate the Polish case out are the very high level of working-age disability pensioners and a higher level of multi-family households. Once these two factors are controlled for the patterns of employment are not much different between Germany and Poland and as we shall see in Section 5, financial incentives matter for decisions on the labour market.

The comparative analysis of employment levels is presented with a detailed breakdown by family status. Presenting the information by family type allows us to some extent to separate out the relative effects of demand for and supply of labour. Labour demand conditions are more or less the same for individuals regardless of their family status (conditional on other characteristics). On the other hand, financial incentives in and out of work differ by family composition and we would expect labour supply behaviour to reflect these differences. The statistics presented below are clearly far from constituting a complete analysis of determinants of employment, but their role is to give us background for the work incentives analysis that follows. Employment statistics have been computed for both countries using the samples described in Tables 2 and 3 and presented in the columns headed “Employment sample”. Employment statistics are presented in Tables 5 and 6. In Table 5 we show individual level statistics, while in Table 6 we present a detailed breakdown by the employment status of couples. In the latter case the samples were limited to couples where both partners met the age criterion.



The employment statistics in Table 5 for Germany are presented for the whole country and separately for the former East and West Germany. For Poland, apart from overall employment rates we also show the statistics for urban and rural areas, identified by the urban status of the place of residence. The statistics have also been computed for two subsamples, namely those families which do not include a working age pensioner (i.e. a disability or an early retired individual), and then those who on top of that live in single-family households. In Table 6 we present statistics for the two countries and in the case of Poland for the subsample which excludes couples with a pensioner. In both cases it is easily noticeable how big a difference the restrictions make to the computed employment statistics. Excluding families with pensioners has a very significant effect especially on the employment rates computed for families without children (both singles and couples), while the rates computed for single family households strongly affects especially the statistics for single adult families.

Looking at the overall employment rates in Table 5, the rates in Poland are lower in comparison to Germany for almost all groups of individuals. It is also clear that employment rates in the former East Germany are lower than in the former West Germany, reflecting on the one hand the better economic situation in the western part and on the other hand the higher employment of women with children in the East. The differences between urban and rural areas in Poland are especially high for single men (difference of 8.8 percentage points). There are also important differences in the case of singles with children aged over 3 and couples whose youngest child is of school age. In this case the difference for singles is 4.9 percentage points, while for men and women in couples respectively 5.7 and 6.2 percentage points.

Looking at more detailed differences between Germany and Poland the most striking ones are those for individuals without children. While the difference in the employment rate of single individuals with children is 7.8 percentage points, the difference for persons without children is 28.5 percentage points. The situation is similar for individuals in couples. The difference in the employment rate between Germany and Poland for men living in couples with children is 5.6 percentage points, while that for couples without children is as high as 20.3 percentage points. The corresponding figures for women are 4.5 and 21.2 percentage points. The level of employment among married women with children below the age of 4 is actually higher in Poland by 8.0 percentage points.

Some of the characteristics of the Polish labour market become even more striking when we look at the breakdown by couple-level state of employment. This is shown in Table 6. Again, the most striking point is the difference in employment levels among couples without children. Here, while almost 69% of German couples without kids have both partners in work, in Poland the proportion is only about 41%. Even more striking is the fact that in Poland over 20% of couples without children are couples with neither of the partners in work. Once more the couples with the youngest child aged below 4 have high participation rates in Poland and a higher rate of two-earners compared to Germany, though at the same time the proportion of no-earner couples among those with a child aged 0–3 in Poland is 7.6% compared to 3.2% in Germany. It also seems that the proportion of parents returning to work once their children grow older – especially in the case of women – is much higher in Germany. In Poland a lot of couples with children aged over 3 are single earner couples, and only about 56% of couples with children over 3 have both parents in work.

The differences between countries and the relative differences in employment rates between those with and without children become less pronounced once we exclude families with working age pensioners from the Polish sample, and once we focus only on single-family households. Controlling for the presence of a pensioner in the family increases the rate of employment of persons without children from 55.8% to 67.5% in the case of single individuals, from 64.9% to 85.6% among married men and from 52.9% to 73.2% among married women (see second last column in Figure 5. If we limit the sample only to those living in single-family households, then the rates increase further respectively to 74.0%, 87.3% and 74.9% (see last column of Table 5). Similarly, when we look at the subsample of couples which do not include a pensioner, the breakdown of couple-level employment status in Poland looks much more similar to that in Germany (Table 6). In some cases the differences between employment rates in the two countries remain, but they are not as striking as in the case of the unrestricted comparison.

The analysis presented above to a large extent clarifies the seeming paradox of strong work incentives and low employment rates in Poland. Financial incentives do matter for individual labour market decisions and there seems to be no escape from the efficiency-equity trade-off. What significantly complicates the analysis, and what makes the Polish labour market so different from the German one is – apart from the high level of pensioners among the working age population – the high proportion of multi-family households. To correctly assess the labour market incentives which individuals face on the labour market this household structure needs to be taken into account.

The equity-efficiency trade-off looks much stronger when we control for the pre-retirement pensions and for complex household structures, though in some sense it may still be surprising that controlling for these two factors employment rates in Poland are not much higher than in Germany, given the limited support from the state the individuals can count on. Some further explanation of this fact may be related to between household transfers which we do not control here, and to potential shadow-economy employment. Unfortunately we cannot identify illegal sources of income in the data. It is also very likely that these do not get reported in the BBGD household surveys. It is reassuring though that accounting for pre-retirement pensions and for multi-family households goes a long way in explaining the seeming paradox of low government support and low employment rates in Poland.

Below we present how important the within-household sharing of resources is for replacement ratios in Poland. We then turn to the analysis of three hypothetical reforms of the Temporary Social Assistance and analyse their influence on labour market incentive effects under different within-household sharing assumptions.

#### **4. Within-household sharing and labour market incentives in Poland**

The formulations concerning replacement ratios presented in Section 3.2 have been used to compute replacement ratios for a particular family disregarding the incomes of other families in the household. However, as we mentioned earlier a very high number of households in Poland consist of more than a single family, and although we do not know the degree of sharing of resources among them, such sharing almost certainly exists in most of such households. In the BBGD 2005 data 74% of single adults without children live in multi-family households, while the

proportions for lone parents and for working age couples are respectively 54% and 37%. Although the demographic structure of Polish households has been changing, the proportion of large households remains high. According to most recent published statistics on the basis of BBGD data, in 2008 the average number of persons per household was 2.9 compared to 3.1 in 2005, and the proportion of households with 4 or more individuals was 32.9% compared to 36.8% in the year we use for the analysis (GUSa and GUSb, various years).

The complex nature of households implies that the replacement rates computed in line with equations 1–5 most likely give a wrong impression of the true financial incentives to work in Poland. We thus propose two different assumptions concerning the type of sharing of resources within households so that this complex household structure can be reflected in the computed financial incentives to work.

#### 4.1. Replacement ratios and within-household sharing

The two most natural assumptions are that either the family in question benefits (proportionally to the relative size of the family) from the disposable income of other families without at the same time contributing to the household resources (referred to below as “type-1” sharing), or that the disposable incomes of the household are shared within the household in proportion to the size of each family (“type-2” sharing). The latter solution allows for the family we focus on to be a net beneficiary of living together with other families but also to be a net contributor to the family budget. This could have important consequences for labour market incentives, since while out-of-work individuals may benefit from income of other families, the consequence of finding a job would be to share some of the earnings with other families in the household. Taking the example of a single adult family the two assumptions imply the following for the computation of replacement ratios.

Assuming the “type-1” sharing of resources the RR can be computed as: RRs

$$RR_{1,j}^s = (Y_j^{h_j=0} + W_j^{h_j=0}) / (Y_j^{h_j=1} + W_j^{h_j=1}) \quad (6)$$

where  $W_j^{h_j=k}$  is the equivalised sum of incomes of other families in the household (conditional on the labour market status ( $k$ ) of family ( $j$ )) computed as:

$$W_j^{h_j=k} = (\Phi_j / \Theta_j) * \sum (Y_i | h_j = k) \quad i \neq j \quad (7)$$

where  $\Phi_j$  is the equivalence scale of family  $j$ ,  $\Theta_j$  is the equivalence scale of the whole household, and  $\sum (Y_i | j(h = k))$  is the sum of incomes of families other than  $j$  conditional on the labour market status of family  $j$ . Similarly we can compute the replacement ratios for couples under this sharing assumption ( $RR_{1,j}^{c1}, RR_{1,j}^{c2}, RR_{1,j}^{c3}, RR_{1,j}^{c4}$ ). The 1 subscript in the expressions refers to the “type-1” sharing of resources.

On the other hand, if all families are assumed to contribute to the family budget in proportion to their family size, i.e. if we assume “type-2” sharing, then income of family ( $j$ ) in a specific labour market scenario ( $h = k$ ) would be:

$$Z_j^{h_j=k} = (\Phi_j / \Theta_j) * \sum_{i=1}^I (Y_i | h_j = k), \quad j \in I \quad (8)$$

Since in the computation of the replacement ratios in which we use the last definition of family income the ratio of equivalence scales cancels out, the RRs under this assumption are computed simply as ratios of overall household incomes:

$$RR_{2,j}^s = \frac{\sum_{i=1}^I (Y_i | h_j = 0)}{\sum_{i=1}^I (Y_i | h_j = 1)}, \quad j \in I \quad (9)$$

Corresponding RRs can also be calculated under this assumption for couples ( $RR_{2,j}^{c1}, RR_{2,j}^{c2}, RR_{2,j}^{c3}, RR_{2,j}^{c4}$ ). The 2 subscript refers to the “type-2” sharing of resources. Below we use these different specifications of replacement ratios in order to demonstrate how important within-household sharing may be in the case of Polish households.

## 4.2. Sharing assumptions and replacement ratios

In Table 7 we show the effect of the different sharing assumptions on the calculated financial incentives to work. The table includes the 10th percentile, the median and the mean of the RRs distribution generated under the assumption of no within-household sharing of resources ( $RR_{0,j}$ ), “type-1” sharing ( $RR_{1,j}$ ) and “type-2” sharing ( $RR_{2,j}$ ). Full distributions of the replacement ratios computed under the three assumptions are shown in Figure 3.

Table 7

Replacement ratios for Poland under different within household sharing assumptions

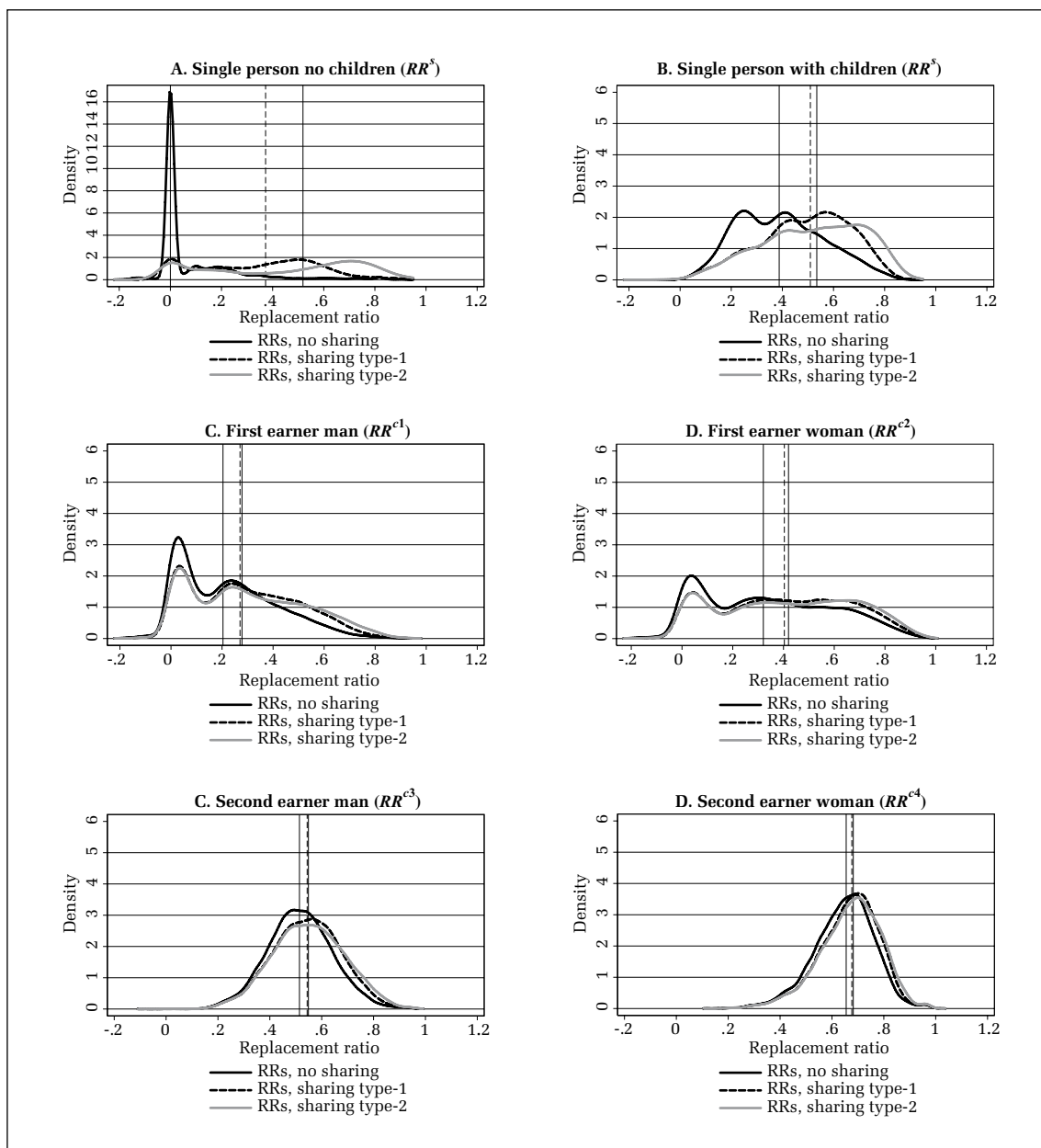
	Single NK	Single – WK	FE – Man	FE – Woman	SE – Man	SE – Woman
10th perc.						
RR0	0.000	0.188	0.000	0.022	0.356	0.497
RR1	0.000	0.237	0.026	0.044	0.371	0.513
RR2	0.000	0.239	0.026	0.044	0.372	0.514
Median						
RR0	0.000	0.388	0.204	0.321	0.514	0.655
RR1	0.373	0.510	0.270	0.403	0.544	0.677
RR2	0.519	0.535	0.278	0.420	0.549	0.682
Mean						
RR0	0.087	0.395	0.225	0.339	0.516	0.646
RR1	0.342	0.490	0.288	0.400	0.542	0.665
RR2	0.442	0.518	0.303	0.414	0.550	0.671

Notes: RR0 – replacement rates computed assuming no sharing of resources; RR1 – computed assuming “type-1” sharing, RR2 – computed assuming “type-2” sharing.

Source: SIMPL micro-simulation model, on BBGD 2005.

Figure 3

Replacement ratios by family type including household income, 2005



Note: replacement ratios computed according to formulas 1–5. Vertical lines represent respective median RRs.

Source: calculations using the SIMPL and STSM micro-simulation models.

As we can see there are substantial differences in the distributions of replacement ratios between those computed assuming no sharing of resources and those in which we allow the possibility of within-household sharing. As we would expect the effect of allowing “type-1” and

“type-2” sharing of resources is highest in the case of single individuals without children, 74% of which live in multi-family households. Financial incentives to work in the cases of all six sub-groups we consider in Table 7 and Figure 3 are significantly weaker, and as we would expect, they are the weakest under “type-2” sharing assumption, since in this case the family an individual belongs to is assumed to share the in-work incomes with other families in the household.

While the 10th percentile of the distribution of RRs for single people without children is 0 under all sharing assumptions, the median increases from 0 under no sharing to 0.37 under “type-1” sharing and to 0.52 under “type-2” sharing. This value is not much lower than the respective median in Germany (0.68, see Table 4). For lone parents it seems that the type of assumed sharing is not as important as for singles without children, but also here the differences in the computed RRs are substantial. Median replacement ratios grow from 0.38 under no sharing to 0.54 under “type-2” sharing. Naturally, the magnitude of the sharing effect falls with the increase in the equivalised size of the family and the proportion of families for a given family type which live in multi-family households. The effect is also the lower, the lower is the additional income which an individual we consider brings into the household in the in-work scenario when compared to the household income in the out-of-work scenario. It is thus not surprising that the effect is lower for first earners in couples as compared to single individuals, and is lower still for second earners. Moving from no sharing to “type-2” sharing of resources increases the median replacement ratio from 0.51 to 0.55 for second male earners in couples and from 0.66 to 0.68 for second female earners in couples. Under the sharing assumptions for first earners in Poland the calculated replacement ratios are still much lower compared to Germany. Under “type-2” sharing the median RRs in Poland are 0.28 for men and 0.42 for women, while the respective values for Germany are 0.49 and 0.61. However, the replacement rates for second earners are almost exactly the same in Poland and in Germany once we allow for “type-2” sharing of resources in Poland. This seems to apply not only to the median but to entire distributions.

This section has demonstrated that within-household resource sharing may be of crucial importance to the understanding of labour market behaviour in Poland. This applies especially strongly to the case of single adult families, who are very likely to share households with others, and whose financial incentives are very strongly determined by the type of within-household sharing we assume. This multi-family household structure is something that we should bear in mind also in the analysis of labour market consequences of tax and benefit effects. Three such hypothetical reforms are presented below and in Section 5.1 we examine whether the assumed type of resource sharing would have any significant influence on changes in financial incentives to work following the introduction of these three reforms.

## **5. Reforming social assistance in Poland**

In this section we present an analysis of the likely effects of three hypothetical reforms of the Temporary SA in Poland by first looking at how they would affect household incomes and poverty, and secondly how these changes would affect incentives on the labour market, taking into account the different within-household sharing assumptions presented in Section 4.2. The reforms we model consist of two elements. First we make the Temporary SA available to a greater proportion

of households by relaxing the very strict wealth test criteria operating in Poland, and secondly we increase the amounts of the TSA to the legislated minimum income.

As we pointed out in Section 2 in the micro-simulation of the baseline scenario for 2005 the wealth criteria imply that only about 5.2% of households are eligible to claim the Temporary SA provided they pass the income means test.<sup>13</sup> Moreover, the amounts being paid to families which are guaranteed by the central government cover only 20% or 30% of the difference between actual income and the legislated minimum. The reforms we model consist of the following changes:

- Reform I – the proportion of those eligible to the TSA on the basis of the wealth test increases to 25%; however only the guaranteed amounts of the TSA are paid to families.
- Reform II – the proportion of those eligible to the TSA on the basis of the wealth test increases to 25%; the amounts paid are the “full” amounts up to the legislated family specific minimum incomes.
- Reform III – the proportion of those eligible to the TSA on the basis of the wealth test increases to 75%; the amounts paid are the “full” amounts up to the legislated family specific minimum incomes.

Thus while all reforms extend the eligibility to the TSA to a larger number of families Reforms II and III increase the amounts paid to families along the lines presented in Figures 1C and 1D making the “full” Temporary SA available. Reform I is the least generous and Reform III the most generous, and this gets clearly reflected in their cost and distributional consequences. In Table 8 we present some results of non-behavioural micro-simulation of the three reforms. The annual cost of the reforms is estimated to be PLN 990 million, PLN 5,500 million and PLN 9,090 million respectively,<sup>14</sup> and the reforms reduce the poverty rate from 18.6% in the baseline system to 18.1%, 15.1% and 14.0% under the reformed scenarios. The distributional consequences of the reforms are presented in Figure 1 in the Appendix. The redistributive consequences of the three reforms and their degree of generosity can be clearly seen from the average proportional effects on household incomes the reforms induce.

Table 8  
Hypothetical TSA reforms – cost and effects on poverty

	<b>Reform cost (PLN million per year)</b>	<b>Poverty rate (in %)</b>
Baseline system 2005	–	18.6
Reform I	990	18.1
Reform II	5,550	15.1
Reform III	9,090	14.0

Source: SIMPL micro-simulation model, on BBGD 2005.

<sup>13</sup> For comparison – in Germany wealth criteria for Social Assistance imply that about 75% of households would qualify provided they pass the income-means test (computations using the STSM model using GSOEP 2005 data).

<sup>14</sup> These values represent respectively 0.03%, 0.54% and 0.83% of the Polish GDP in 2005.

### 5.1. Temporary SA reforms and replacement ratios

We now turn to the potential labour market consequences of extending Social Assistance in Poland. In this section we present some details of the effects of the three reforms on replacement ratios. Table 9 shows the proportional changes in the mean replacement ratio brought about by the three reforms by family type. The results are presented separately for the different assumptions concerning resource sharing in the household. The resulting changes in the distribution of RRs are shown in the Appendix in Figure 2 for single adult families and for first earners in couples. The results go in the expected direction with Reform I having a very modest effect on work incentives and Reform 3 changing incentives most significantly. It is noteworthy that the proportional change

Table 9

Sharing and the effect of hypothetical TSA reforms on mean replacement ratios in Poland (in %)

	<b>Single NK</b>	<b>Single – WK</b>	<b>FE – Man</b>	<b>FE – Woman</b>	<b>SE – Man</b>	<b>SE – Woman</b>
Baseline median RR	0.087	0.395	0.225	0.339	0.516	0.646
Proportional effect of Reform I	11.6	3.3	11.6	7.6	0.9	0.3
Proportional effect of Reform II	54.7	25.3	65.7	39.1	6.3	2.4
Proportional effect of Reform III	126.1	39.3	156.7	97.3	10.2	3.7
RR1						
Baseline median RR	0.342	0.490	0.288	0.400	0.542	0.665
Proportional effect of Reform I	3.3	2.8	8.9	6.3	0.9	0.3
Proportional effect of Reform II	16.3	21.1	50.6	32.3	6.0	2.4
Proportional effect of Reform III	36.3	33.2	120.5	80.5	9.8	3.7
RR2						
Baseline median RR	0.442	0.518	0.303	0.414	0.550	0.671
Proportional effect of Reform I	2.8	2.7	8.4	6.0	0.8	0.3
Proportional effect of Reform II	13.7	20.2	47.8	31.1	6.0	2.3
Proportional effect of Reform III	30.0	31.9	114.0	77.5	9.7	3.6

Source: SIMPL micro-simulation model, on BBGD 2005.



in the mean replacement ratios, especially in the case of single adult families and first earners in couples, depends very significantly on the assumption we make concerning within-household sharing of resources.

Concerning the calculated effects of the three reforms two broad categories of conclusions seem to be important. First of all, we distinguish how the effects of the reforms differ by the type of individuals under a given sharing assumption. Secondly, we examine whether changes in the sharing assumption lead to increases or reductions in the effect of the reforms, and how strong the effect of different sharing assumptions is on the implications of reforms.

Unsurprisingly the more generous the reform is, the greater is its effect on replacement ratios. However, the magnitude of the effect differs substantially by the type of individual we consider, as well as on the sharing assumption we make. For example, assuming no sharing of resources between families, the effects of Reform I on the mean RRs range from 0.3% for female second earner to 11.6% for single adults without children and male first earners (see Table 9). The effects grow with the generosity of the reform, and for Reform III the mean RRs for female second earners grow by 3.7% relative to the baseline, while mean RRs for singles without children by 126.1%. The effects of Reform III are highest for male first earners in couples (156.7%). The high effects on the RRs of first earners in couples can be explained by the high level of the legislated minimum income in the case of couples.

Sharing assumptions concerning household resources not only have an effect on the baseline distribution of replacement ratios but also on how strongly the simulated reforms affect incentives to work. In cases of all family types, but in particular for single adults with and without children and for female first earners, higher level of resource sharing dampens the effect of reforms on incentives as represented by the mean RRs. For male first earners the effects of sharing are much smaller, and they are essentially negligible for second earners. For example, the effects of Reform III for single adults without children, as reflected in the mean RRs, fall from 126.1% under no sharing to 30.0% under “type-2” sharing. On the other hand the effect of this reform on male second earners is stable regardless of the sharing assumption at about 10%. These differences in incentive effects demonstrate on the one hand how important the assumed sharing mechanism is for the appropriate identification of financial incentives on the labour market, but on the other hand show that the reforms, and in particular Reforms II and III would have a substantial effect on incentives to work regardless of the assumed type of sharing.

It is also important to note that the effect on the mean RRs for single adults without children under no sharing is much higher than for lone parents. This may be surprising but it is a consequence of the design of the benefit system of Social Assistance in Poland. Because lone parents are eligible to receive Family Benefits, and because these reduce the amount of the TSA they can obtain, the effect of making the TSA more generous would in general be smaller for them than for persons without children. These differences disappear once we take into account within-household sharing.

## **6. Conclusions**

The paper discussed the current safety net system in Poland in a comparative context with Germany. We presented an analysis of work incentives in Poland and Germany and analysed labour market

effects of hypothetical reforms extending the availability and levels of social assistance in Poland. The reforms we examined would move the current Social Assistance arrangements towards that of Germany and many other Western European countries. Comparing employment statistics by family type and work incentives for Germany and Poland we have shown that despite a lower public social security network, overall employment is lower in Poland than in Germany. While this is partly demand side driven, strong differences by family types can be only explained by labour supply incentives. Controlling for private social networks in the form of multi-family households and for the extensive use of disability and early retirement pensions, we showed that employment rates in Poland and in Germany are in effect very similar.

Our findings concerning the hypothetical reforms of the Social Assistance in Poland underline the above mentioned trade-off between fighting poverty and making work pay. A more generous social assistance which is necessary to prevent poverty would increase the replacement ratios between out-of-work and in-work incomes. This would lead to lower financial attractiveness of employment relative to remaining out of the labour market and as a result to lower levels of employment levels. We have argued that a reliable estimation of the efficiency-equity trade-off may prove difficult in Poland, given the high proportion of multi-family households. As we demonstrated different assumptions concerning the within-household sharing imply significantly different labour market incentives, especially for singles and for first earners in couples. The sharing assumptions also have very significant implications for the effects of simulated reforms on financial incentives to work.

Although the standard approach of looking at family-level financial incentives in the case of the Polish labour market produced a seeming paradox of a combination of high labour market incentives and low levels of employment, we showed that once we account for disability and early retirement and look at employment rates of those living in single-family households the employment rates are much more similar to those in Germany. Secondly, once we account for sharing of resources within multi-family households, financial incentives to work are much weaker than those computed with disregard for the complex household composition. One thus cannot hope for an easy way out as far as the equity-efficiency trade-off is concerned with relation to the Polish labour market.

A solution of this trade-off could be a careful combination of out-of-work and in-work transfers (Blundell 2001). As the experience of several countries and many simulation studies have shown, a well-designed and targeted in-work credits system can lead to a significant increase in employment without reducing a guaranteed minimum support for the poor.<sup>15</sup> Before embarking on the extension of Social Assistance Polish governments would be well advised to step cautiously and consider providing additional incentives to low-paid employment if the goals of reducing poverty and increasing employment are to be achieved simultaneously. It also seems that any comprehensive labour supply analysis in Poland, and presumably in other transition and developing countries, should in the future explicitly account for the complex nature of households. Such analysis should also be cautious about using the established labour supply approaches which have been developed and applied mainly on data with very low proportions of multi-family households. In any future analysis of the labour market in Poland the multi-family household structures will have to be explicitly accounted for to correctly identify the effects of financial incentives to work.

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<sup>15</sup> See for example the studies on the Working Families' Tax Credit in the UK (Blundell et al. 2000, Brewer, Duncan, Shephard (2007) and simulation studies for other countries (e.g. Haan, Myck 2007; Bargain, Orsini 2006).

## References

- Aaberge R., Dagsvik J.K., Steinar S. (1995), Labor Supply Responses and Welfare Effects of Tax Reforms, *Scandinavian Journal of Economics*, 97 (4), 635–659.
- Bargain O., Morawski L., Myck M., Socha M. (2007), *As SIMPL as That: Introducing a Tax-Benefit Microsimulation Model for Poland*, IZA Discussion Paper, 2988, Bonn.
- Bargain O., Orsini K. (2006), In-Work Policies in Europe: Killing Two Birds with One Stone, *Labour Economics*, 13 (6), 667–693.
- Blundell R. (2001), Welfare reform for low income workers, *Oxford Economic Papers*, 53 (2), 189–214.
- Blundell R., Duncan A., McCrae J., Meghir C. (2000), The Labour Market impact of the Working Families Tax Credit, *Fiscal Studies*, 21 (1), 75–104.
- Bonin H., Kempe W., Schneider H. (2003), Household Labor Supply Effects of Low Wage Subsidies in Germany, *Journal of Applied Social Sciences Studies*, 123, 199–208.
- Brewer M., Duncan A., Shephard A. (2007), Did working families' tax credit work? The impact of in-work support on labour supply in Great Britain, *Labour Economics*, 13 (3), 699–720.
- European Commission (2008), *Child Poverty and Well-Being in the EU. Current status and way forward*, European Commission, Directorate-General for Employment, Social Affairs and Equal Opportunities.
- GUSa (Various Years), *Household Budgets (Budżety Gospodarstw Domowych)*, Główny Urząd Statystyczny, Warsaw.
- GUSb (Various Years), *Small Statistical Yearbook (Mały Rocznik Statystyczny)*, Główny Urząd Statystyczny, Warsaw.
- Haan P., Morawski L., Myck M. (2008), Taxes, Benefits and Financial Incentives to Work. The United Kingdom, Germany and Poland Compared, *Bank i Kredyt*, 39 (1), 5–33.
- Haan P., Myck M. (2007), Apply with caution: introducing UK-style in-work support in Germany, *Fiscal Studies*, 28, 43–72.
- Haan P., Myck M. (2008), *Multi-Family Households in a Labour Supply Model: A Calibration Method with Application to Poland*, IZA Discussion Paper, 2988, Bonn.
- Immervoll H., Kleven H., Kreiner H., Saez E. (2007), Welfare Reform in European Countries: A Microsimulation Analysis, *Economic Journal*, 117 (516), 1–44.
- Laroque G., Salanie B. (2002), Labour Market Institutions and Employment in France, *Journal of Applied Econometrics*, 7, 25–48.
- Levy H., Morawski L., Myck M. (2009), *Alternative tax-benefit strategies to support children in Poland*, in: O. Lelkes, H. Sutherland, H. Ashgate (eds), *Tax and Benefit Policies in the Enlarged Europe: Assessing the Impact with Microsimulation Models*, Vienna.
- Myck M. (2007), *Allocating Social Assistance using a wealth-test model: SIMPL 2003 and 2005*, SIMPL Technical Note, 1, University of Warsaw.
- OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD Countries*, Organisation for Economic Co-Operation and Development, Paris.
- Narożny M. (2006), *High Unemployment in Poland. Not only a labour market problem*, ECFIN Country Focus, 3 (6), European Commission, DG ECFIN.
- Nickell S. (2001), Fundamental changes in the UK labour market, *Oxford Bulletin of Economics and Statistics*, 63 (Special Issue), 715–736.

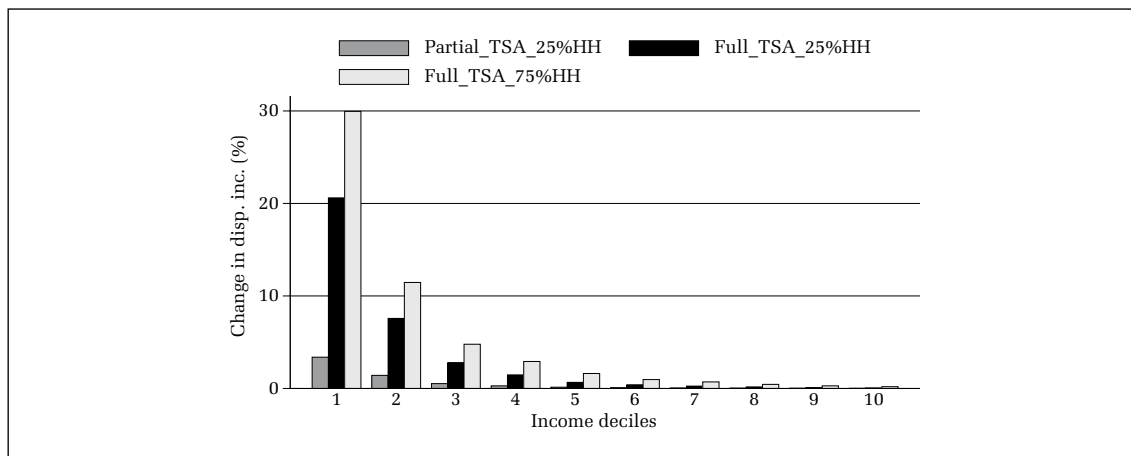
- Peichl A., Pester A., Schneider H. (2010), *Does Size Matter? The Impact of Changes in Household Structure on Income Distribution in Germany*, IZA Discussion Paper, 4770, Bonn.
- van Soest A. (1995), Structural Models of Family Labor Supply: A Discrete Choice Approach, *Journal of Human Resources*, 30, 63–88.
- Steiner V., Haan P., Wrohlich K. (2005), *Dokumentation des Steuer-Transfer-Mikrosimulationsmodells 1999–2002*, Data Documentation, 9, DIW-Berlin.

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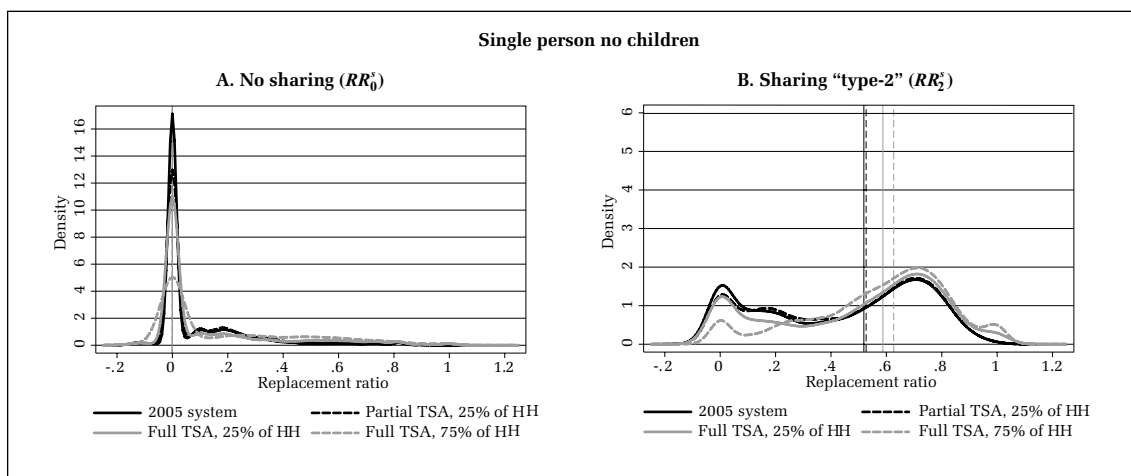
## Appendix

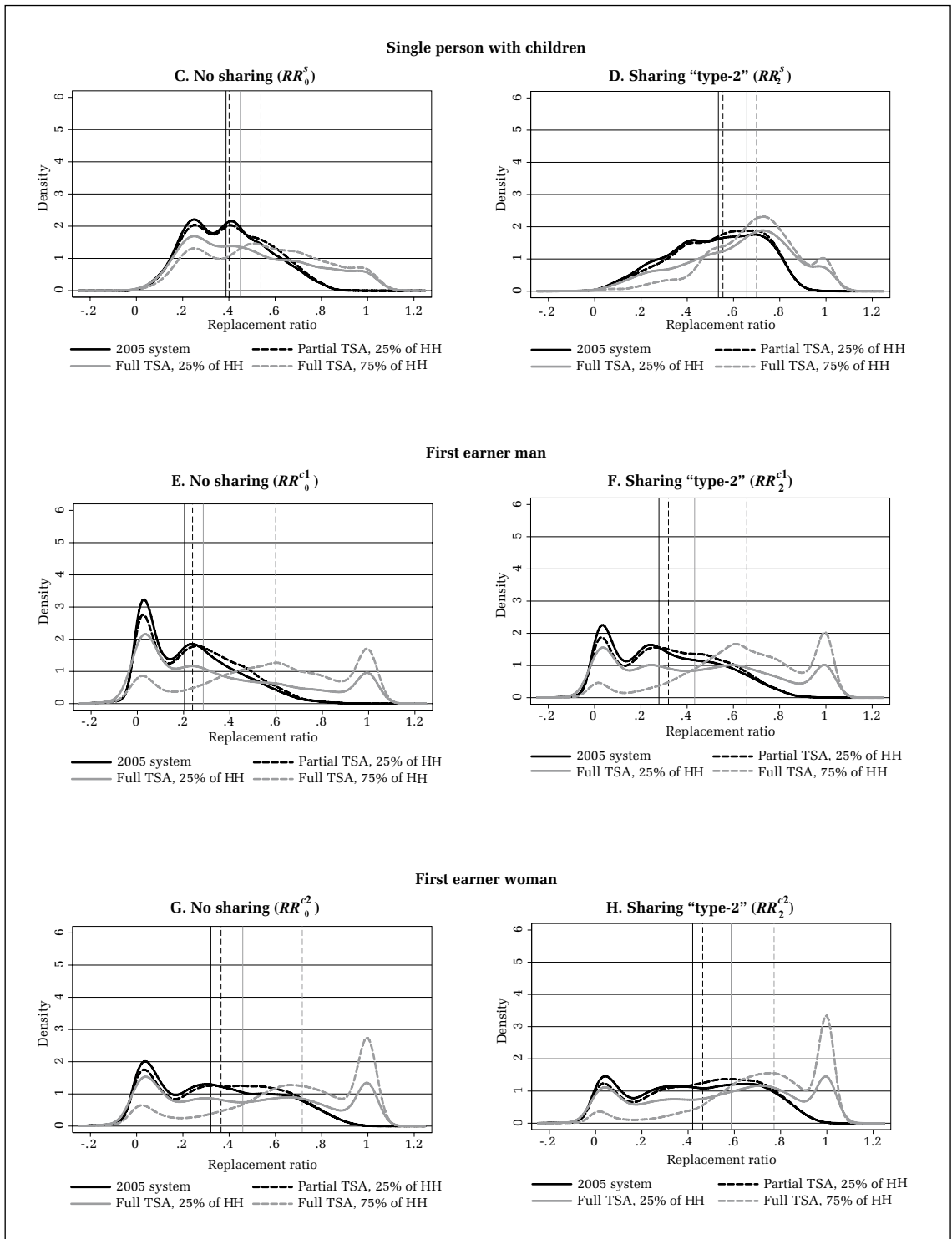
Figure 1  
Distributional effects of hypothetical TSA reforms



Note: deciles generated using equivalised household income. See text for details of reforms.  
Source: a calculations using the SIMPL micro-simulation model.

Figure 2  
Within household sharing and effects of SA reforms on replacement ratios





Note: replacement ratios computed according to equations 1–3 for panels A, C, E, G, and these equations adjusted according to equation 9 for panels B, D, F, H. Vertical lines represent respective median RRs. See text for details of reforms.

Source: calculations using the SIMPL micro-simulation model.