

Making work pay: improving work incentives for secondary earners in families with children in Poland

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Joint work with: Anna Kurowska (UW) and Katharina Wrohlich (DIW)

*Dual labour market, minimum wage and inequalities
Warsaw, 8-9.10.14*

Analysis within CenEA's microsimulation research programme:

- NGN project: structural labour supply estimation - how stable are estimated elasticities?
- FNP project: effects of potential reforms to labour market incentives for parents (coordinated by Anna Kurowska, UW).

Application of CenEA's microsimulation model SIMPL:

- tax and benefit microsimulation model developed since 2005 (www.cenea.org.pl);
- data from Polish Household Budgets Survey (PHBS);
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Main question:

How to change labour market incentives for couples with children?

(Keane and Moffitt 1998; Blundell et al. 2000; Brewer et al. 2006; Eissa and Hoynes 2004; Bargain and Orsini 2006; Haan and Myck 2007; Haan 2010; Wrohlich 2011)

- Balancing out low income support with labour market incentives.
- Trade-offs:
 - redistribution vs employment;
 - first earner vs second earner incentives;
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Background:

- Recent evidence on labour supply responsiveness in new EU member states using EUROMOD (Bargain et al., 2013):
 - very low elasticities in Poland, Estonia and Hungary.
- Conflicting evidence from PHBS/SIMPL for Poland (Myck, 2014):
 - high labour supply elasticities for women (0.7) and men (0.3);
 - simulations consistent with observed changes on the labour market between 2005-2009.

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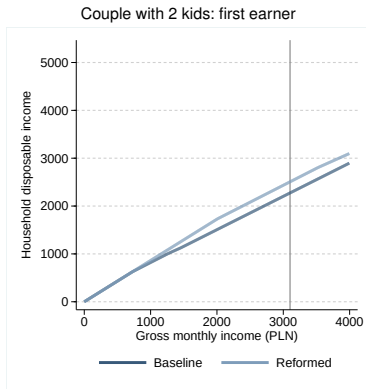
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Example: a simple reform - increase (x3) of the universal tax credit (no benefits):

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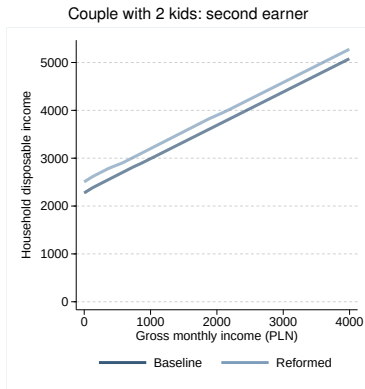
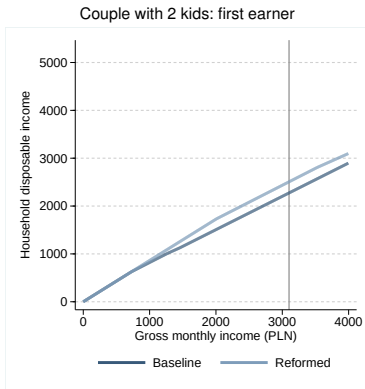
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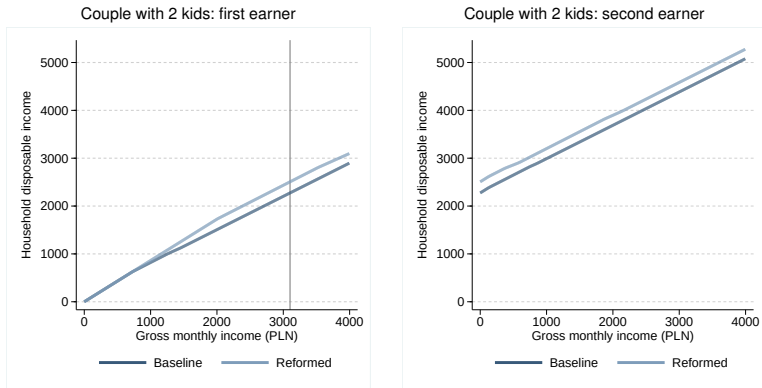
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- Modelling of how families respond to changes in financial incentives:
 - application of the labour supply model (based on SIMPL);
 - analysis of potential labour market effect of different policies.

(Semi-)structural labour supply analysis - focus on couples:

- static utility maximization along the lines of van Soest (1995);
- utility function with the deterministic part represented by:
 - parameters β_{1i} , β_{3mi} and β_{3fi} allowed to vary with characteristics (taste shifters);
 - estimated accounting for unobserved heterogeneity:
 - mass point on β_d (Hoynes, 1996).

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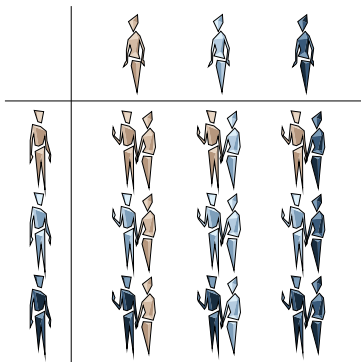
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$$U_{ij}(c_{ij}, w_{ij}^m, w_{ij}^f) = \beta_{1i}c_{ij} + \beta_2(c_{ij})^2 + \beta_{3mi}w_{ij}^m + \beta_{3fi}w_{ij}^f + \beta_{4m}pt_{ij}^m + \beta_{4f}pt_{ij}^f + \\ + \gamma_{1f}c_{ij}w_{ij}^f + \gamma_{1m}c_{ij}w_{ij}^m + \gamma_{2f}c_{ij}pt_{ij}^f + \gamma_{2m}c_{ij}pt_{ij}^m + \gamma_{3mf}w_{ij}^m w_{ij}^f$$

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Modelling labour supply of couples:

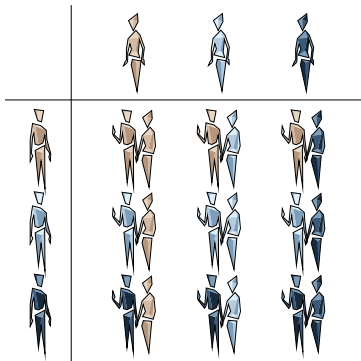
- discretised hours of work: no work, part time and full time:



- observed scenario assumed to maximise utility;
- incomes in different scenarios computed using the microsimulation model;
- budget constraint determined by wages (w_i), work status w_j , out of work incomes (y_i), household characteristics (X_i) and the tax and benefit function (ϕ):

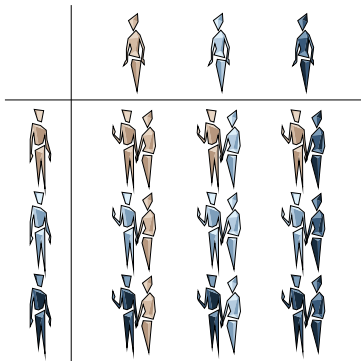
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$$c_{ij} = \phi[\omega_i^m, \omega_i^f, w_{ij}^m, w_{ij}^f, X_i, y_i]$$

Polish Household Budgets Survey 2009

- Couples in labour supply flexible households:
 - men aged 18-59, women aged 18-54;
 - not self-employed or student;
 - not receiving disability or retirement pensions.
- Employment status information - full time, part time work:
 - fixed costs cannot be estimated without detailed hours information.
- For multi-family households focus on “main” family in household.
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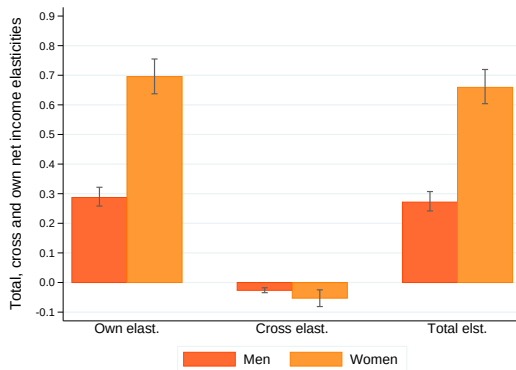
Polish Household Budgets Survey 2009

	Data year 2009
Number of couples:	
- observations	10,623
- grossed up	3.79 mln
Men:	
- age	40.45
- higher education	0.162
Women:	
- age	38.04
- higher education	0.242
Children:	
- one or more	0.759
- three or more	0.114
Employment:	
- no earner	0.027
- single earner	0.349
- double earner	0.624

Estimated elasticities (participation)

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Own, cross and total net earnings elasticities

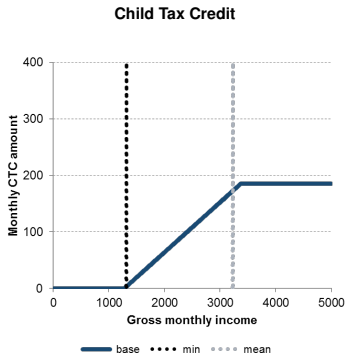
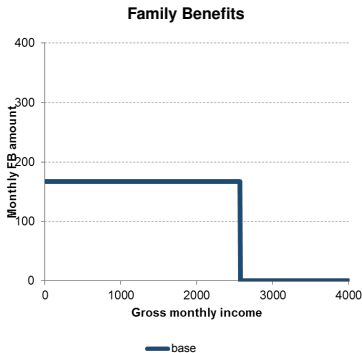


Baseline system of family support in Poland (2009)

Single earner family with two children:

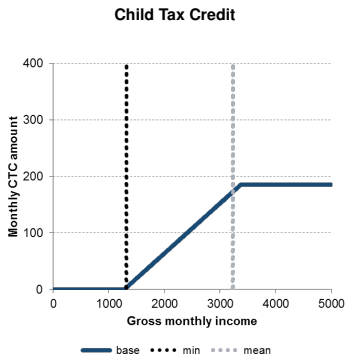
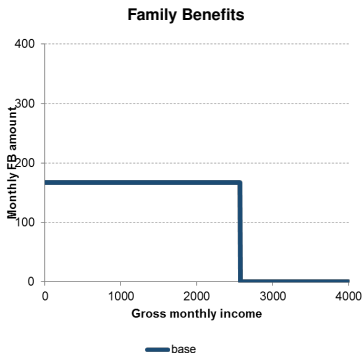
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Incentive aspects of the current set up:

- point withdrawal of Family Benefits;
- full advantage from CTC at about mean wage;
- no specific incentives for dual earner couples.

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Four hypothetical reforms:

ex-post each with a cost for couples of 0.5bn PLN

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- tapered withdrawal of Family Benefits (55%);
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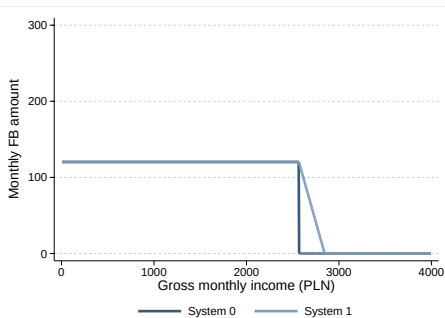
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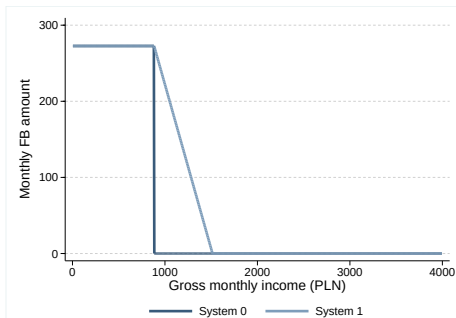
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Couple, 2 kids: first earner



Couple, 3 kids: second earner



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System 2:

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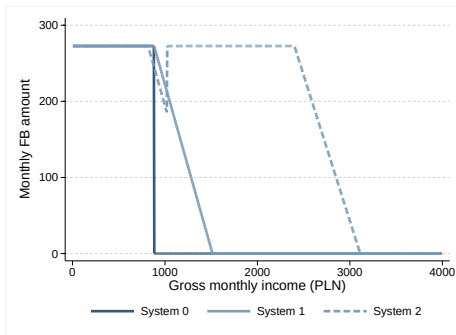
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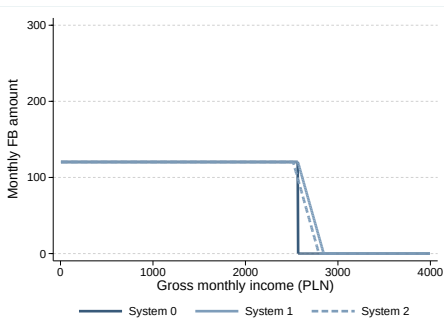
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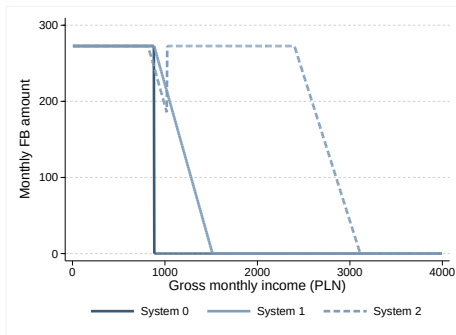
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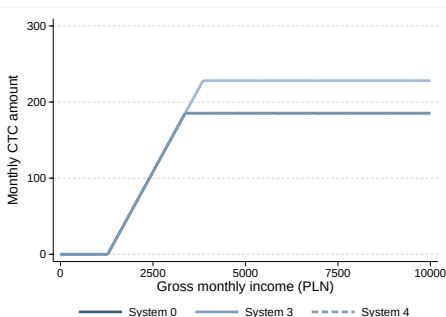
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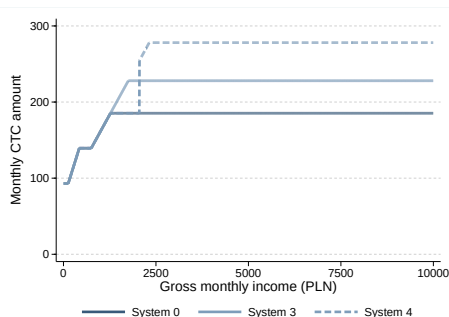
System 3 and 4:

- System 3: increased value of Child Tax Credit (CTC);
- System 4: double-earner premium - additional CTC.

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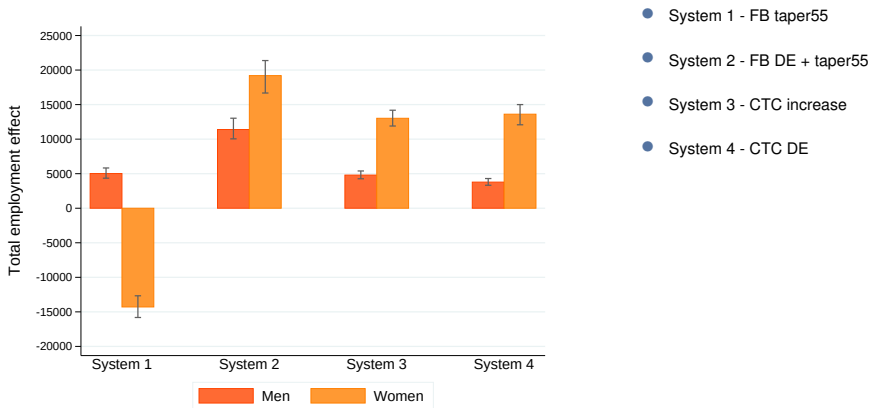


Labour supply effects of the four hypothetical reforms:

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Source: Authors' calculations using BBGD data and SIMPL microsimulation model.

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	System 1	System 2	System 3	System4
Men	5.0	11.4	4.8	3.8
Women	-14.3	19.2	13.0	13.6
Total:	-9.3	30.6	17.8	17.4
Total by income quintile:				
Q1				
Q2				
Q3				
Q4				
Q5				

- System 1 - FB taper55
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Q1	0.0	16.1	4.1	0.8
Q2	-3.2	9.2	4.7	1.8
Q3	-3.8	3.1	4.7	3.3
Q4	-1.6	1.6	3.0	5.0
Q5	-0.7	0.4	1.3	6.5

- System 1 - FB taper55
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Summary of results:

- Potentially important labour supply effects of modelled fiscal changes:
 - most effective reform (System 2): 0.5pp for women and 0.3pp for men.
- Important distributional differences between the four analysed reforms:
 - System 2 combines assistance to low income families with effective labour market outcomes.
- Negative labour supply effects on second earners of the FB taper; but:
 - positive effects on first earners (lower number of workless households);
 - potential dynamic effects which cannot be modelled (stability of disposable income as earnings grow);
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Using the tax and benefit system to increase employment among parents in couples:

- Important trade-offs in the design of tax and benefit policy:
 - redistribution and efficiency: first and second earner incentives.
- Careful policy design can target resources at low income families and increase incentives to work for parents.
- Labour supply effects among couples with children of up to 30,000 individuals (with a reform of 0.5bn PLN).
- Other important factors which should be considered:
 - fixed costs of work (childcare) - double earner premia could function as “childcare supplements” or “childcare tax credits”;
 - dynamic effects: employment and income stability of the FB taper;
 - long term benefits from employment: social security benefits (eligibility for UB and pensions).

References and contact details:

- Myck, Kurowska, Kundera (2013) “Financial support for families with children and its trade-offs: balancing redistribution and parental work incentive” (*Baltic Journal of Economics*).
- Myck, Domitrz, Morawski, Semeniuk (2013) “Financial incentives to work in the context of a complex reform package and growing wages: the Polish experience 2005-2011” (CenEA Working Paper: www.cenea.org.pl).
- Myck (2014) “Stability of elasticity estimates in the context of significant changes in labour market incentives” (CenEA Working Paper: www.cenea.org.pl).

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