



# Institute of Statistics and Demography Warsaw School of Economics (SGH)



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## National Time Transfer Accounts in Poland

### **POINTA**

National Transfer Accounts  
and National Time Transfer Account  
for Poland



**Opportunities and Challenges of the Demographic Transition for Meeting the 2030 Agenda and the Sustainable Development Goals: 12th Global Meeting of the NTA Network, Mexico City, July 23-27, 2018.**

# Motivation

To present the real value of household production and its impact on the national economy

To recognize women's and men's participation and contribution to the national economy (gross value added, GDP)

To help official statistics agencies, government, other institutions and private users to better organize social and family policy (childcare and adult care), pension system, legislation etc.

# Schedule



**1. Household Production  
Satellite Account – the  
valuation of unpaid work**

**2. National Time Transfer  
Accounts**

# Household Production Satellite Account

# Time use survey in Poland – historical view

Year of the research	Number of respondents in TUS samples
1968/1969	10 238
1975/1976	21 819
1984	45 087
2003/2004	20 264
2013	28 209

\* 1996 – a pilot survey (2,484 respondents)

# Time spent on housework/family care and market work

## Housework

2013			2003/2004		
total	women	men	total	women	men
3.46	4.33	2.48	3.39	4.30	2.36

## Market work

2013			2003/2004		
total	women	men	total	women	men
7.38	7.02	8.03	6.51	6.18	7.14

# Method



## 3rd party criterion by Margaret Reid

- Productivity criterion



## Input method

- Time x average wages of professionals



## Market cost method

- Replacement cost approach

# Valuation of housework

market cost method (replacement cost approach)

Calculating the average duration an  $a$ -activity in  $j$ -group of activity for:

	Female	Male
Day:	${}_K \bar{t}^z_{laj} = \frac{\sum_{i=1}^{n_1} {}_K t^z_{ilaj}}{n_1}$	${}_M \bar{t}^z_{laj} = \frac{\sum_{i=1}^{n_2} {}_M t^z_{ilaj}}{n_2} \quad (1)$

Week:	${}_K \bar{t}_{laj} = \frac{5}{7} {}_K \bar{t}^1_{laj} + \frac{1}{7} ({}_K \bar{t}^2_{laj} + {}_K \bar{t}^3_{laj})$	${}_M \bar{t}_{laj} = \frac{5}{7} {}_M \bar{t}^1_{laj} + \frac{1}{7} ({}_M \bar{t}^2_{laj} + {}_M \bar{t}^3_{laj}) \quad (2)$
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Month:	${}_K H_l = \frac{52}{12} \sum_{j=1}^4 \sum_{a=1}^{n_a} \bar{t}_{laj} {}_K S_{aj}$	${}_M H_l = \frac{52}{12} \sum_{j=1}^4 \sum_{a=1}^{n_a} \bar{t}_{laj} {}_M S_{aj} \quad (3)$
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Where:

${}_K t^z_{ilaj}$  – time of activity performance  $a$ -activity in  $j$ -group for  $i$ -woman of  $l$ -class in  $z$ -day of a week

$n_1$  – number of women in the sample

${}_M t^z_{ilaj}$  – time of activity performance  $a$ -activity in  $j$ -group for  $i$ -man of  $l$ -class in  $z$ -day of a week,

$n_2$  – number of men in the sample, liczba mężczyzn w próbie,

$z$  – day of a week;  $z = 1, 2, 3$ , where: 1 – Monday to Friday, 2 – Saturday, 3 – Sunday,

$j$  – group of activities,  $j = 1, 2, 3, 4, \dots$

${}_K H_l$  – average monthly value of unpaid housework for women of  $l$ -class

${}_M H_l$  – average monthly value of unpaid housework for men of  $l$ -class



# Results

## Average gross monthly value of unpaid work, May, 2013 (in PLN)

	Groups of activities	unpaid work per month (in PLN)		
		total	women	men
1.	Household upkeep	297	283	304
2.	Food management	753	980	505
3.	Making and care of textiles	64	102	23
4.	Care: childcare and help to an adult family member	557	749	387
	<i>In this: childcare</i>	<i>494</i>	<i>678</i>	<i>321</i>
5.	Help for other households	99	108	74
6.	Total (groups 1-4)	<b>1672</b>	<b>2113</b>	<b>1218</b>
7.	Total (groups 1-5)	1770	2221	1292

Source: I. Błaszczak-Przybycińska, *Budżet czasu ludności 2013*, Studia i Analizy Statystyczne, GUS, Warszawa 2015.

Monthly unpaid work as percentage of average monthly gross wages and salaries:

46.3%

Relation of women's and men's value of the unpaid work:

1 : 0.576



## Sequence of the Household Production Satellite Account for Poland in 2013 (million PLN)

Specification		Monetary value of the components of home production (million PLN)			
		SNA	Non-SNA	TOTAL	
Value of unpaid work (time x average wages)		◦	619 956	619 956	
Housekeeping (SNA)			◦		
Housing services produced by owner- occupiers, e.g. rents (SNA)			◦		
Own-account construction of dwellings			◦		
Growing foodstuffs, picking berries, mushrooms, etc., hunting and fishing (SNA)			3 454		
Taxes on production			934		
Subsidies on production		-8 248*	-21 574	-29 822	
Current Accounts	Generation of income account	<b>Net value added</b>		<b>602 770</b>	
		Consumption of fixed capital (depreciation)		57 460	
	Production account	<b>Gross value added</b>	<b>452 354</b>	<b>660 229</b>	<b>1 112 583</b>
		Intermediate consumption	256 708	164 869	421 577
		<b>Output (household production)</b>	<b>709 062</b>	<b>825 098</b>	<b>1 534 160</b>

\* Other taxes on production minus other subsidies on production

Source: own calculations

<b>GDP in 2013 (in million PLN)</b>		
<b>1 662 678</b>		
<b>GDP</b>	<b>Gross value added</b>	<b>Gross value added</b>
(without household production)	<b>SNA household production</b>	<b>Non-SNA (unpaid) household production</b>
	(SNA)	(non-SNA)
1 210 324	452 354	<b>660 229</b>
72.8%	27.2%	<b>39.7%</b>
		<b>+ 39.7%</b>
100,0%		
<b>Extended GDP (in million PLN)</b>		
<b>2 322 907</b>		
<b>Market production</b> (without households sector)	<b>Total household production</b> (SNA and non-SNA)	
1 210 324	1 112 583	
<b>52.1%</b>	<b>47.9%</b>	

Source: own calculations

# National Time Transfer Accounts

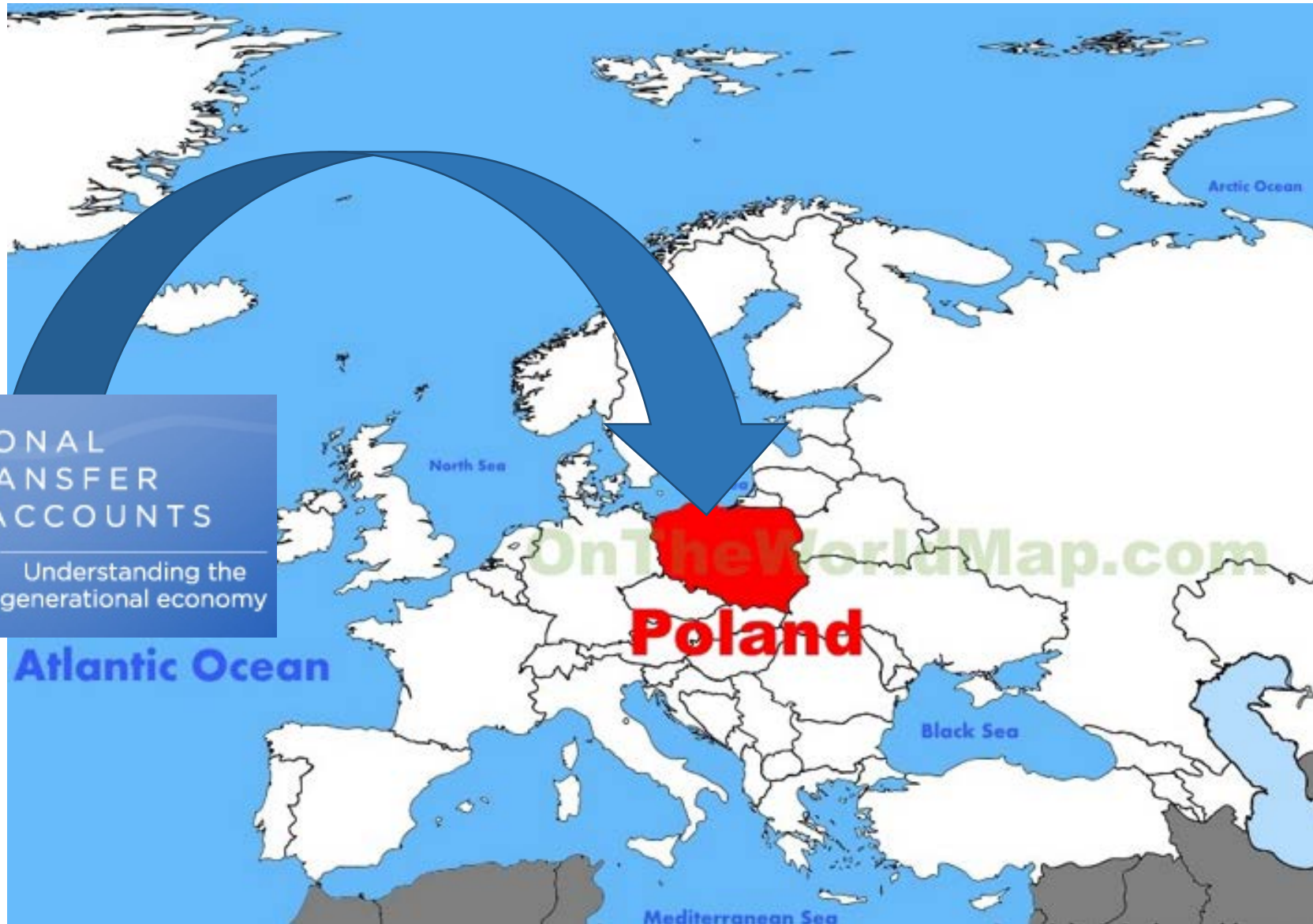
Method

# WAGES

Groups of activities of housework	Average net hourly wages Oct. 2013 (in PLN)	NTTA group of activities (Poland, 2013)
Household upkeep (cleaning)	8.01	clean
Making and care of textiles (laundry)	8.68	laund
Food management (cooking)	8.31	cook
Household maintenance	10.37	hhmaint
Lawn care and gardening	10.09	lawngar
Household management	13.41	hhmgmt
Pet care	9.00	petcare
Shopping and services (purchasing)	11.21	purch
Travelling	10.98	trav
Childcare (household)	21.61	carechhh
Childcare (non-household)	22.44	carechnhh
Help to an adult family member (household adults)	11.27	careadhh
Help to an adult (non-household adults)	14.54	careadnhh
Informal help to other households (volunteering care)	10.41	carev



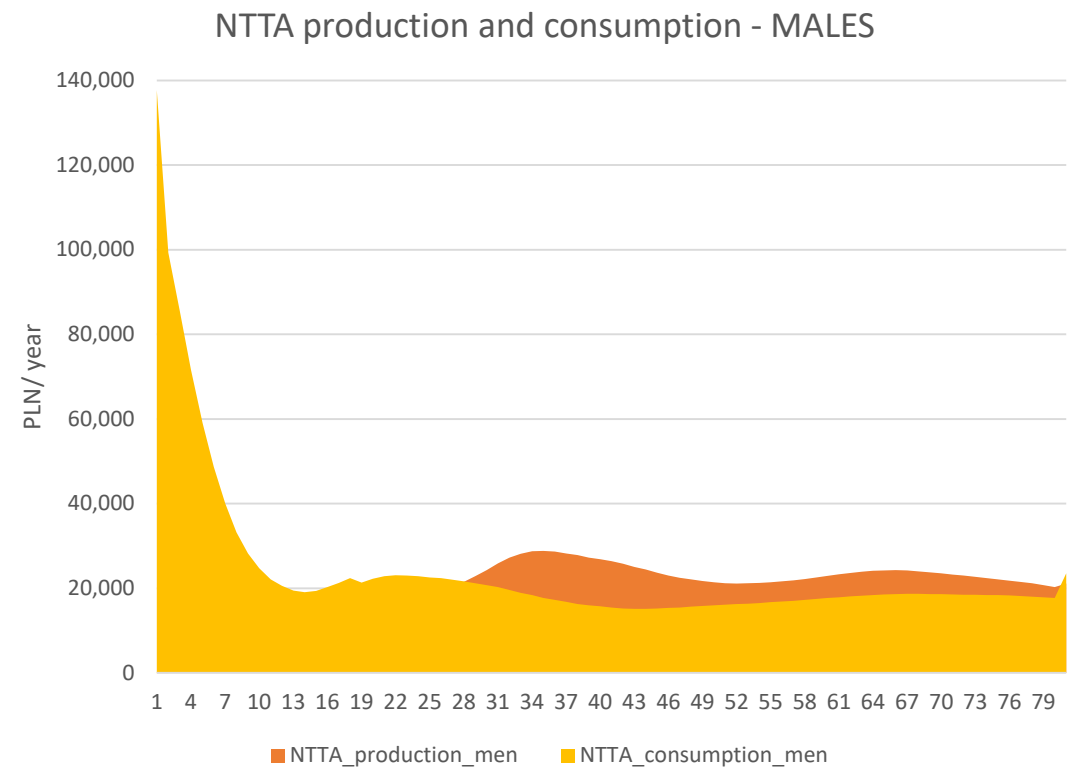
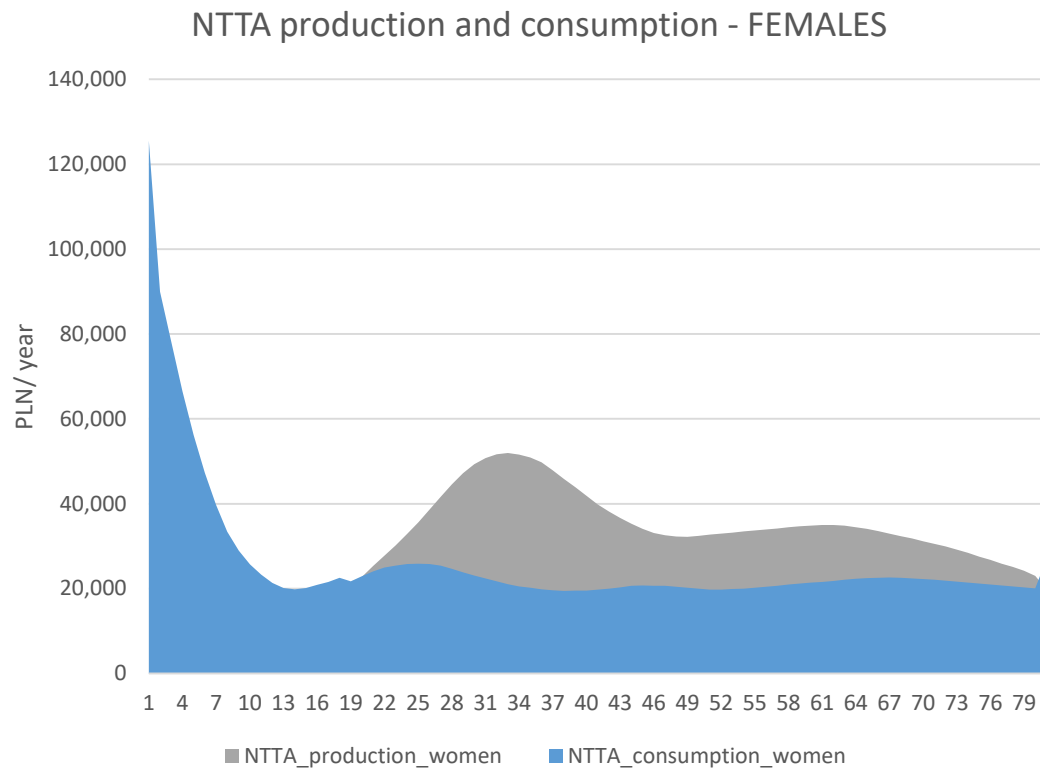
# Results



NATIONAL  
TRANSFER  
ACCOUNTS

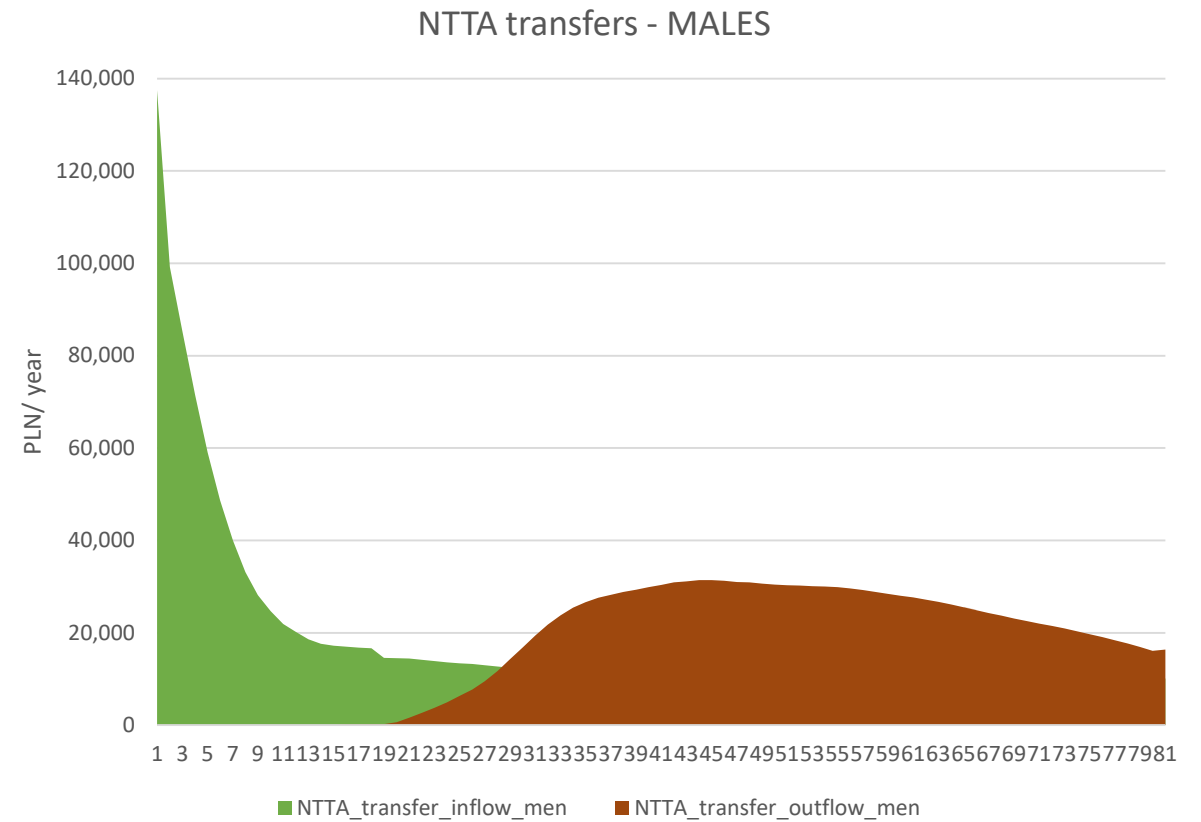
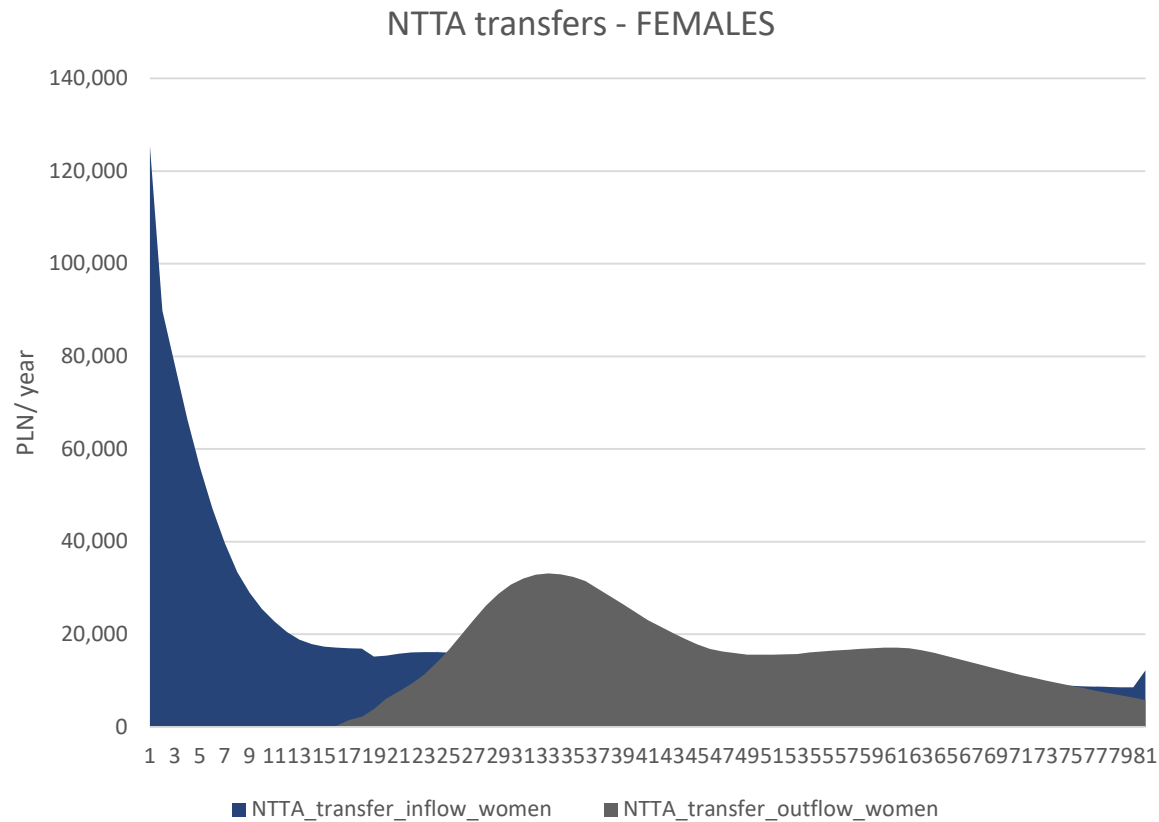
Understanding the  
generational economy

# NTTA production and consumption



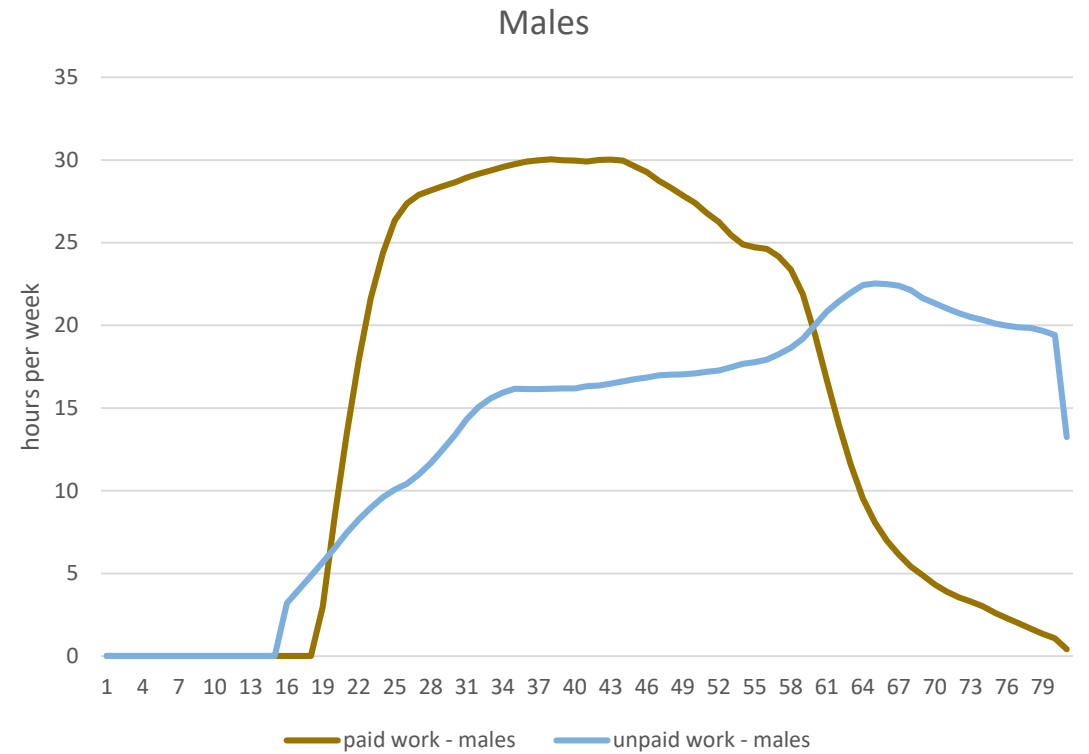
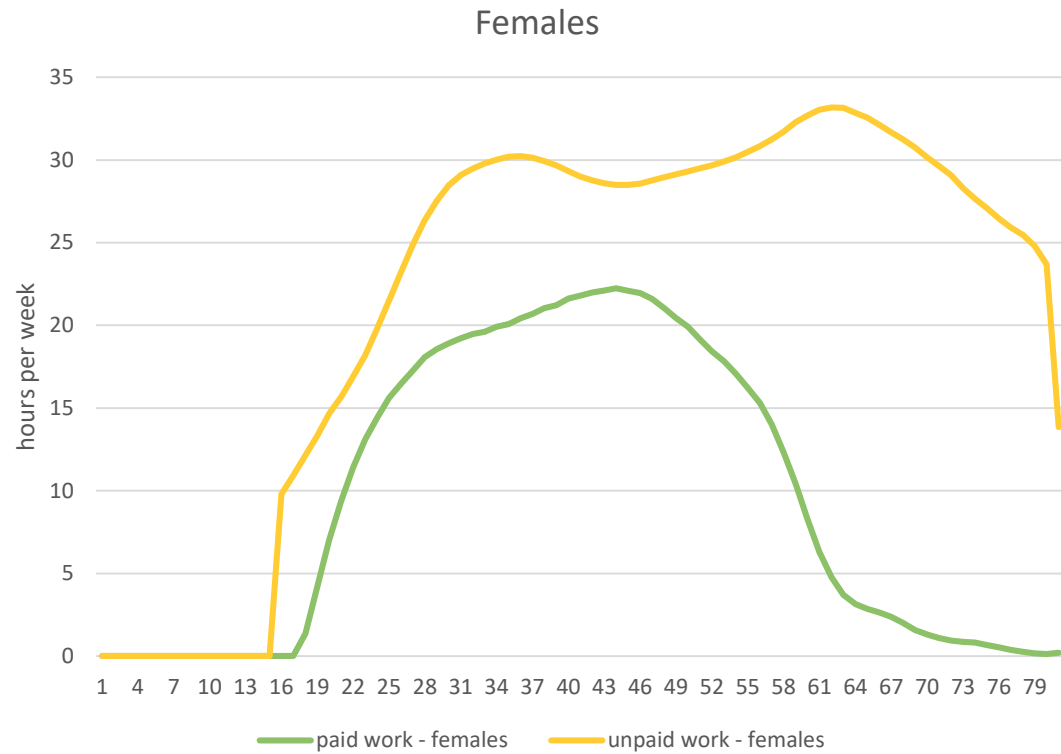
- Women age 25-40 and 50+ provide the major part of total home production
- Home production of men is similar for all cohorts. Men age 32-43 and 64+ produce more than others. Elderly men produce for their own consumption, especially when they live in one-person households
- Children age 0-6 are the most important consumers of unpaid work and home production

# National time transfer accounts



Transfer inflow = transfer received  
Transfer outflow = transfer given

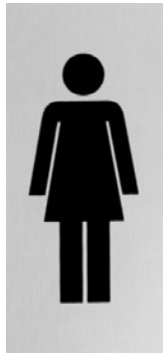
# Time spent on market work and unpaid work



# Time transfer accounts for Poland in 2013

## Women

- Home production:
  - age 25-40
  - age 55+
- Consumption:
  - age 0-6
  - age 20-28



## Men

- Home production:
  - age 32-43
  - age 64+
- Consumption:
  - age 0-6
  - age 16-28
  - age 64+



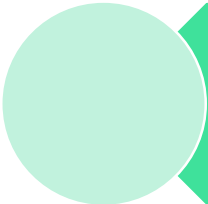
# Conclusions



**Major producers:** women age 25-40 and 55+



**Major consumers:** children age 0-6, men age 64+



Men produce and consume more for their own consumption than for other household members. Women provide home production for their families and outside their households



Home production is related to age of children rather than the number of children in a household

# Thank you

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