



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



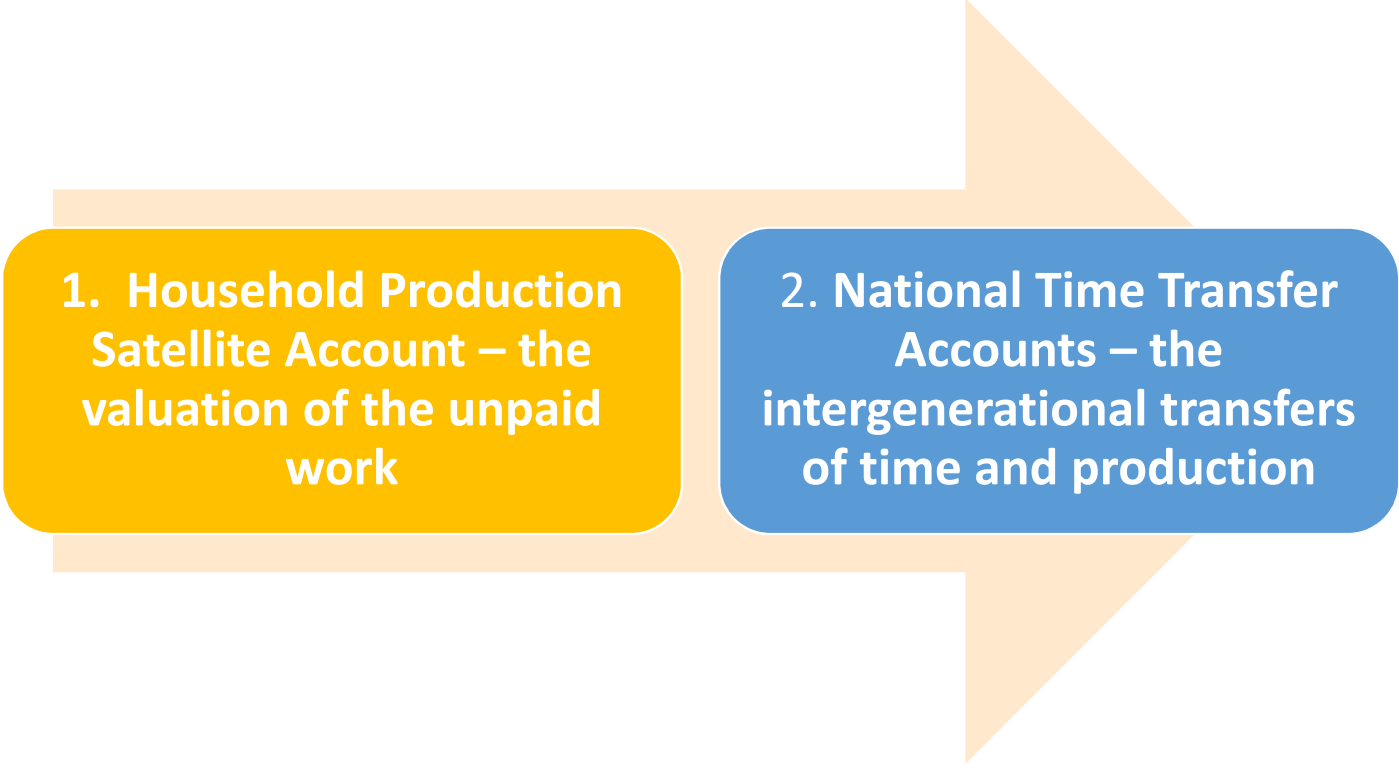
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The National Time Transfer Accounts and the Satellite Household Production Account for Poland. Intergenerational economy of women and men



**40th International Association for Time Use Research Conference  
Budapest, October 24-26, 2018.**

# Schedule



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

**2. National Time Transfer  
Accounts – the  
intergenerational transfers  
of time and production**

# Motivation

- **What?**
  - Household Production Satellite Account (HHPA) → to better understand the economic role of households and their impact to the economy
  - National Time Transfer Accounts (NTTA) → to observe and register invisible productive home activities and the intergenerational transfers of time
- **Why?**
  - to recognize the women's and men's participation and contribution to the economy (gross value added, GDP)
- **For whom?**
  - Official statistical office
  - Public and private institutions
  - Decision-makers of social and family policy (childcare and adult care), pension system, legislation etc.

# Starting point – theoretical background

- Becker's theories:
  - **Consumption theory:**  
the utility that the consumer focus on to maximize is in some sense produced by her/him
  - „A theory of the allocation of time” (household production function):  
Households: **producers = consumers** (no monetary transactions exists)
- Stiglitz's report:
  - to consider **not only the market production** (goods and services offered on the market) but also **unobserved productive activities** (e.g. housework, human capital, environment)

# Household Production Satellite Account (HHSA)

# Market and non-market household production

dinner

**Market**

buying



**Household**

cooking



Has price



Has value  
But **no price**

# Household production satellite account

Household production (in GDP) ~ 10-20%

Non-market household production (outside GDP) ~ 80%

Economy

Market production in sectors (GDP)

Own-account rent

Agricultural production for own use

Paid housework

Sales of homemade services and goods

Sales of food products, wood, growing foodstuffs, picking berries, mushrooms, etc., hunting and fishing

Revenues from renting and leasing

Tips

Unobserved economy and illegal activities

Household upkeep

Food management

Making and care for textiles

Childcare & adult care

Help for other households

# Method of the HHSA



# Non-market household production – method

1. **Housework** (time x average wages of professions)
2. **Intermediate consumption**
3. **Capital**



# Valuation of housework

Input method - market cost method (replacement cost approach)

”third person criterium”

Female

Male

Day:

$${}_K \bar{t}^z_{laj} = \frac{\sum_{i=1}^{n_1} {}_K t^z_{ilaj}}{n_1} \qquad {}_M \bar{t}^z_{laj} = \frac{\sum_{i=1}^{n_2} {}_M t^z_{ilaj}}{n_2} \qquad (1)$$

Week:

$${}_K \bar{t}_{laj} = \frac{5}{7} {}_K \bar{t}^1_{laj} + \frac{1}{7} ({}_K \bar{t}^2_{laj} + {}_K \bar{t}^3_{laj}) \qquad {}_M \bar{t}_{laj} = \frac{5}{7} {}_M \bar{t}^1_{laj} + \frac{1}{7} ({}_M \bar{t}^2_{laj} + {}_M \bar{t}^3_{laj}) \qquad (2)$$

Month:

$${}_K H_l = \frac{52}{12} \sum_{j=1}^4 \sum_{a=1}^{n_a} \bar{t}_{laj}^K S_{aj} \qquad {}_M H_l = \frac{52}{12} \sum_{j=1}^4 \sum_{a=1}^{n_a} \bar{t}_{laj}^M S_{aj} \qquad (3)$$

# Results

## The monetary value of the housework per month (in PLN)

	Gropus of activities	2013			2004			Change (in %) 2013 to 2004
		total	women	men	total	women	men	
1.	Household upkeep	297	283	304	205	192	232	45 ↑
2.	Food management	753	980	505	479	657	300	57 ↑
3.	Making and care for textiles	64	102	23	57	89	18	10 ↑
4.	Care: childcare and help to an adult family member in this: childcare	557	749	387	258	328	178	116 ↑
		494	678	321	216	290	132	129 ↑
5.	Help for other households	99	108	74	70	63	67	41 ↑
6.	<b>Total (groups 1-4)</b>	<b>1672</b>	<b>2113</b>	<b>1218</b>	<b>1000</b>	<b>1266</b>	<b>727</b>	<b>67 ↑</b>
7.	<b>Total (groups 1-5)</b>	<b>1770</b>	<b>2221</b>	<b>1292</b>	<b>1070</b>	<b>1329</b>	<b>795</b>	<b>65 ↑</b>

Source: Błaszczak-Przybycińska (2005), p. 554 and Błaszczak-Przybycińska (2015), p. 164.

2013

the value of housework related to  
the average wages and salaries (gross) per month:

46.3%

women's and men's  
monetary value of the housework:

1 : 0.576



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

Source: own calculations

Household Production Satellite Account	Household production related to GDP (in %)
J. Varjonen, E. Hamunen, Finland (1999)	~ 40
D. Schäfer, N. Schwarz, Germany 2001 (2002)	29,40
S. Holloway, S. Short, S. Tamplin, Great Britain 1998-2000 (2002)	35
Great Britain (HHSA 2005-2014)	52.2-56.1
K. Szép, Hungary (2003)	14
J. Varjonen, K. Aalto, Finland 2001 (2006)	33,1
J. Varjonen, Finland 2006 (2012)	39
M.A.H. Duran, Spain 1995 (2007)	41,7
J.S. Landefeld, C.M. Vojtech, USA 1985 i 2004 (2009)	25-40
W. Fender, Great Britain 2010 (2012)	+ 25% from 2002
J. Varjonen, E. Hamunen, K. Soinnie, Finland 2010 (2012)	34
A. Poissonnier, D. Roy, France 2010 (2013)	49,5% - 84,6
<i>Finland &amp; Germany 2001 (2008)</i>	<i>31 (Finland) 34 (Germany)</i>
<b>M. Marszałek, Poland 2011 (2013)</b>	<b>44.7 (47.9)</b>

Source: own calculations



# National Time Transfer Accounts (NTTA)



Method

# Data

- Time → input method – replacement cost approach (Time Use Survey)

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

- Average wages → to value the unpaid work by age and sex (Remuneration survey)

## Wages in NTTA for Poland in 2013

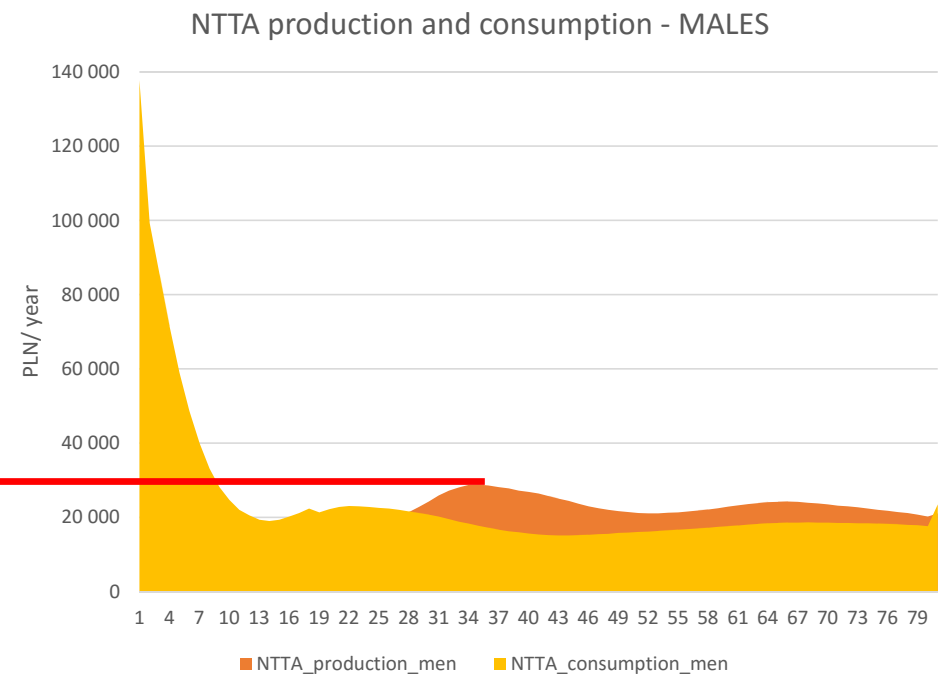
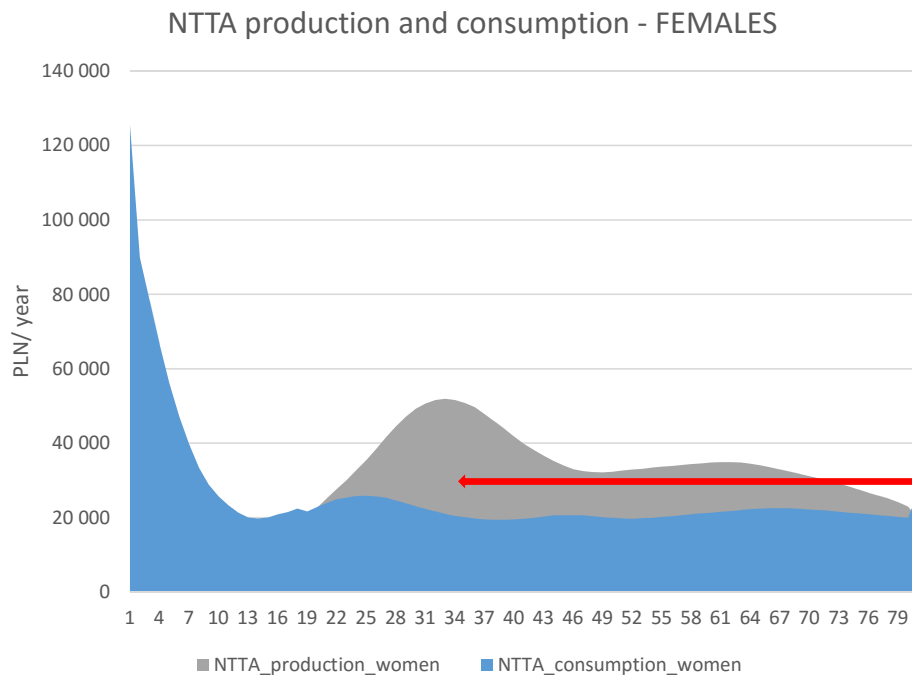
Groups of activities of housework	Average net hourly wages (in PLN)	NTTA group of activities
Household upkeep (cleaning)	8.01	clean
Making and care for textiles (laundry)	8.68	laund
Food management (cooking)	8.31	cook
Household maintenance	10.37	hhmaint
Lawning and gardening	10.09	lawngar
Household management	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

Source: own calculations based on POLNTA project, SGH

# Results of NTTA

Producers – consumers

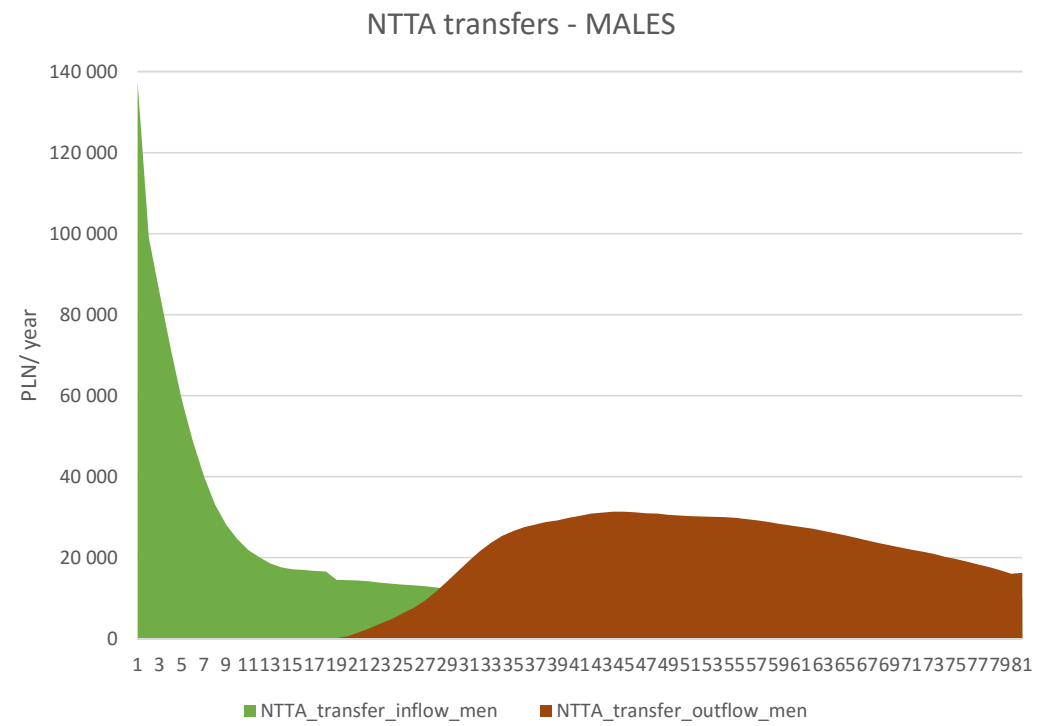
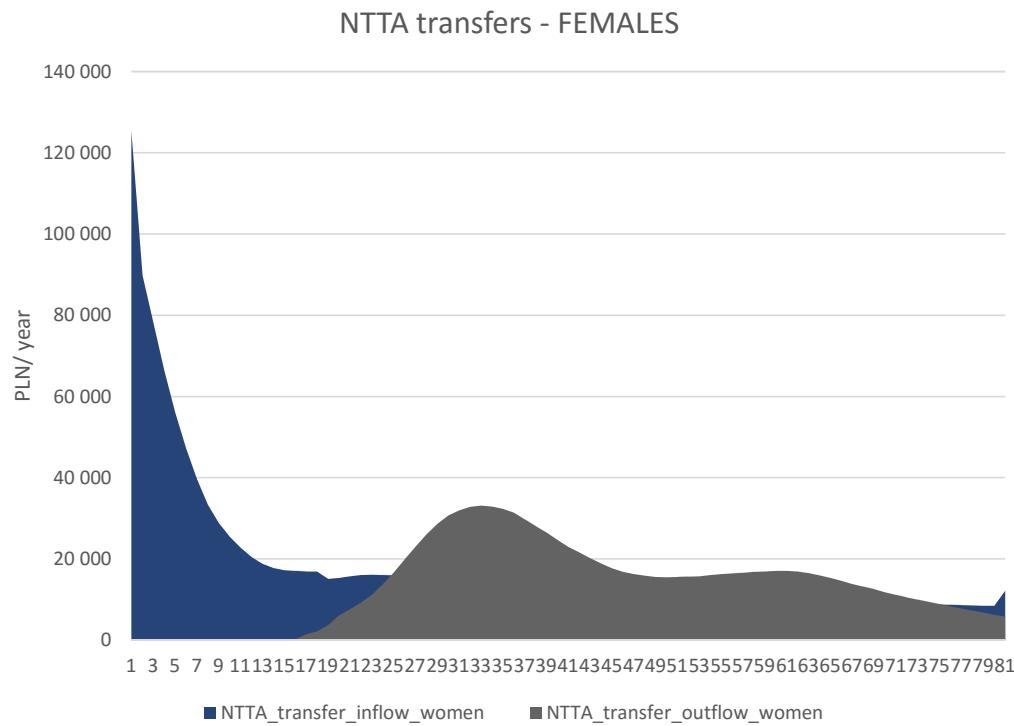
# NTTA production and consumption



- Women aged 25-40 and 50+ create the major part of total home production.
- Home production of men is similar for all cohorts. Men aged 32-43 and 64+ produce more than others. If the man is elder he produces for own use, especially when he is in one-person households.
- Children aged 0-6 are the most important consumers of the unpaid work and home production.

Invisible (non-market) production

# National time transfer accounts

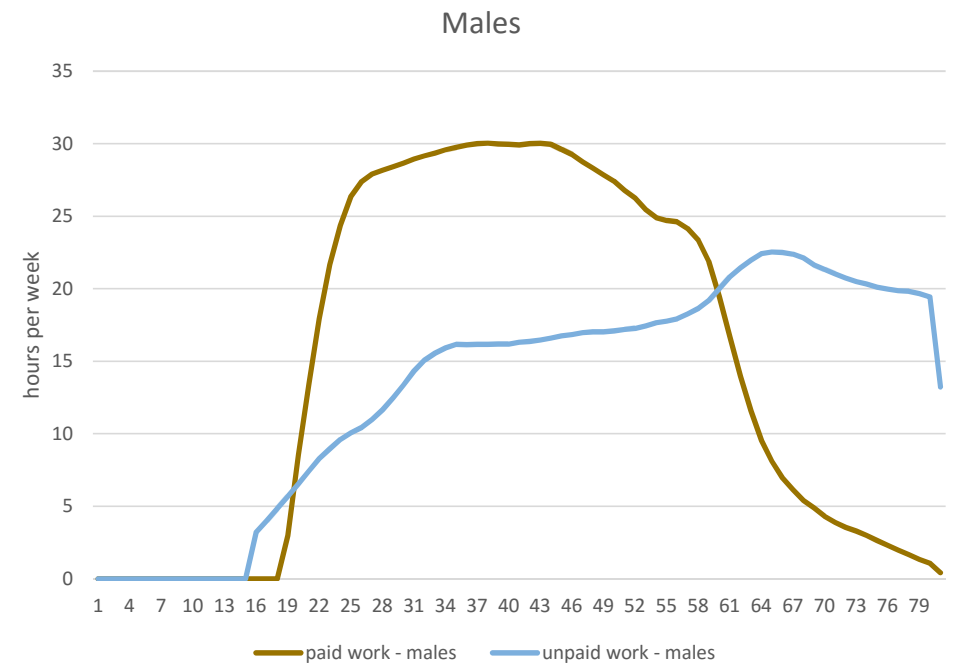
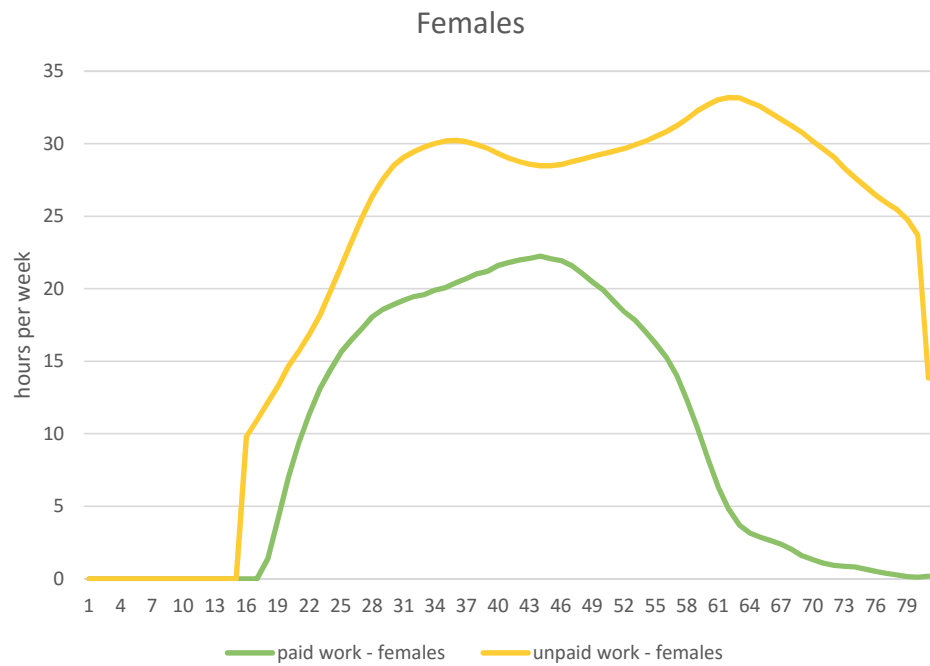


Transfer inflow = transfer received

Transfer outflow = transfer given



# Time of the market work and the unpaid work



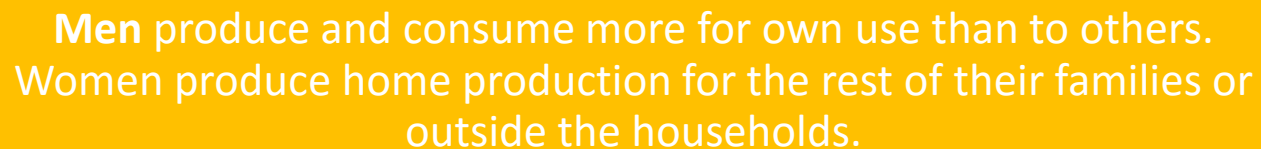
# Conclusions



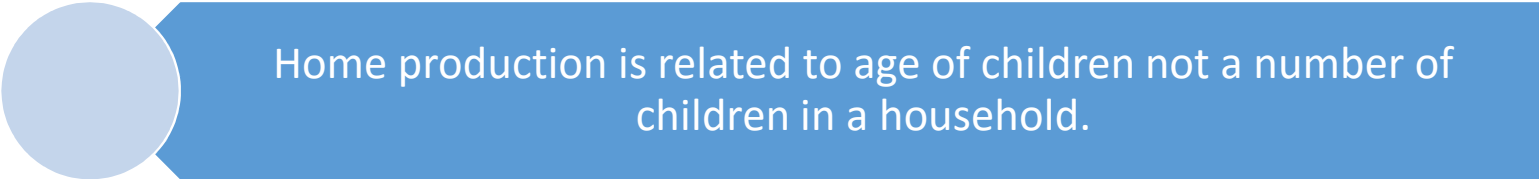
**Major producers:** women aged 25-40 and 55+



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



**Men** produce and consume more for own use than to others.  
Women produce home production for the rest of their families or outside the households.



Home production is related to age of children not a number of children in a household.

# Thank you

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