# MOTHERHOOD PENALTY IN RUSSIA. EVIDENCE FROM RLMS DATA

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# Mechanisms generating MP

- Motherhood penalty — the gap in wages between women with children and childless ones which cannot be fully explained by demographic, social or family characteristics

- <u>Socio-economic</u>. Employers expect lower productivity and mobility or frequent absence due to child healthcare or schooling, and therefore discriminate women with children while hiring or assigning wages (Cuddy, Fiske, Glick, 2004)

- <u>Economic</u>. Women with children might actually be less productive at work compared to their childless colleagues due to higher burden of family- and housework (Anderson, Binder, Krause, 2003)

- <u>Economic</u>. Women might partially loose their professional qualifications during childcare leave and therefore accumulate lower human capital during their job career (Waldfogel, 1997)

  Highly relevant for Russian case due to long childcare leave policies

# Motivation & Research question

- Few studies in Russia, refer to the early 2000s
  8% penalty in 2003-2005 (Arzhenovskiy, Artamonova, 2007)

Do we observe any motherhood penalty in Russia now?

Do we observe a lifelong effect? Loss of qualifications and experience might produce long-lasting effects / disadvantages at the labor market.

Do we observe a differentiated effect across educational groups?

# Data

- Russian Longitudinal Monitoring Survey (2014)

  - Conducted by the National Research University Higher School of Economics and ZAO Demoscope together with Carolina Population Center, University of North Carolina at Chapel Hill

  - Representative on a country-scale

- Subsample of employed women aged 20-44 (1,433 obs.)
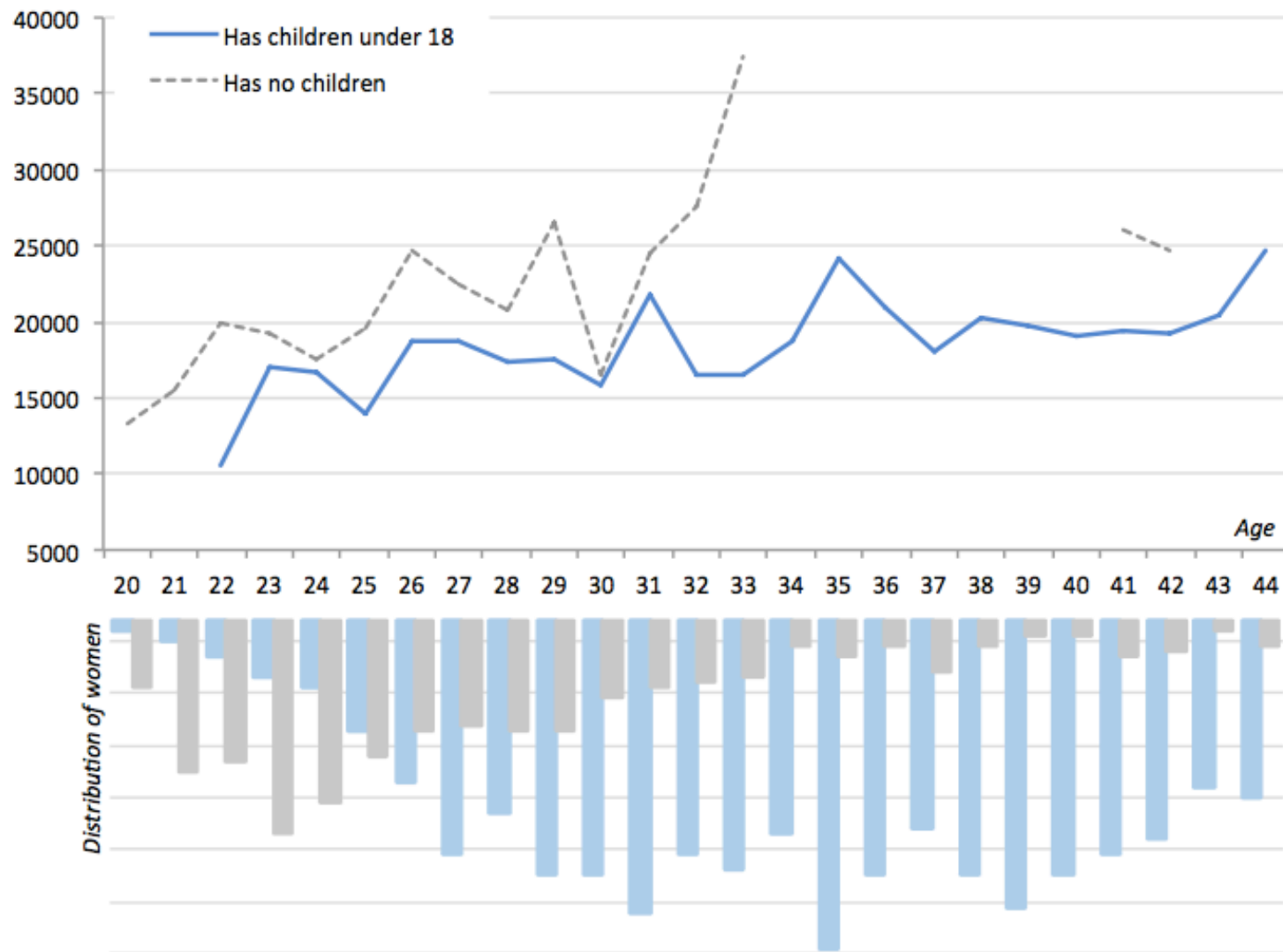
# Raw differences in average wages



**Figure 1.** Average wages of women with children under 18 years old and childless women. Russian Longitudinal Monitoring Survey 2014, representative sample, employed women aged 20-44
*Averages are not estimated for groups of 5 observations or smaller*
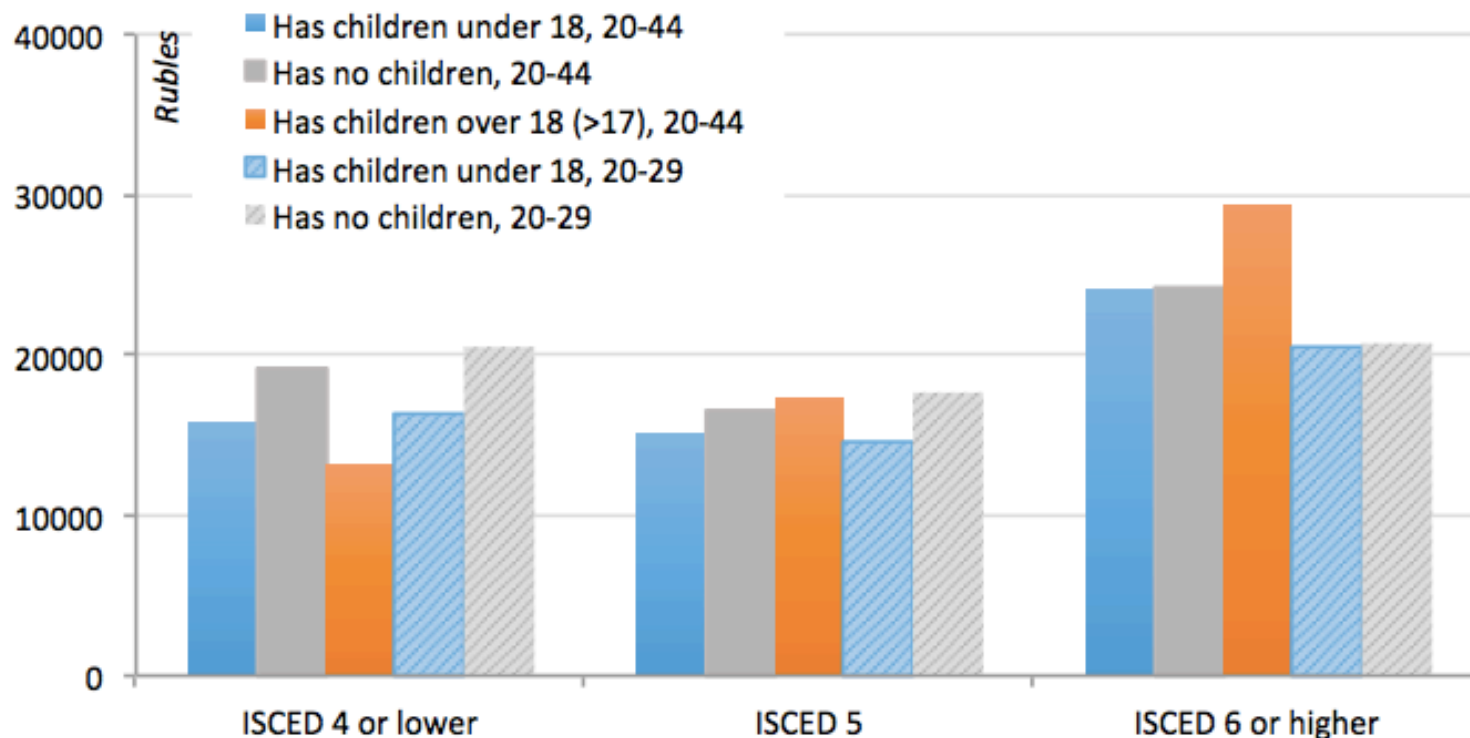
# Raw differences across educational groups



**Figure 2.** Education gradient of average wages of women with children under 18 years old, childless women and women with children over 18 years old. Russian Longitudinal Monitoring Survey 2014, representative sample, employed women aged 20-44 (solid columns) and 20-29 (dashed columns)

# Method

- Selection to motherhood

INVERSE PROBABILITY OF TREATMENT MODEL (IPW)

1. Estimating conditional probability of being mother

    - Binary logistic regression. Dependent = mother (0/1) Covariates: age, educational level, partner status, type of settlement, health status (chronic diseases)

2. Estimating motherhood penalty

    - Weighted log-linear model. Dependent = log(monthly salary) Covariates: age, educational level, partner status, type of settlement, health status (chronic diseases), presence of job contract (official/unofficial employment), sector of employment (government/business), number of subordinates at work, motherhood status

# Regression results. Controls

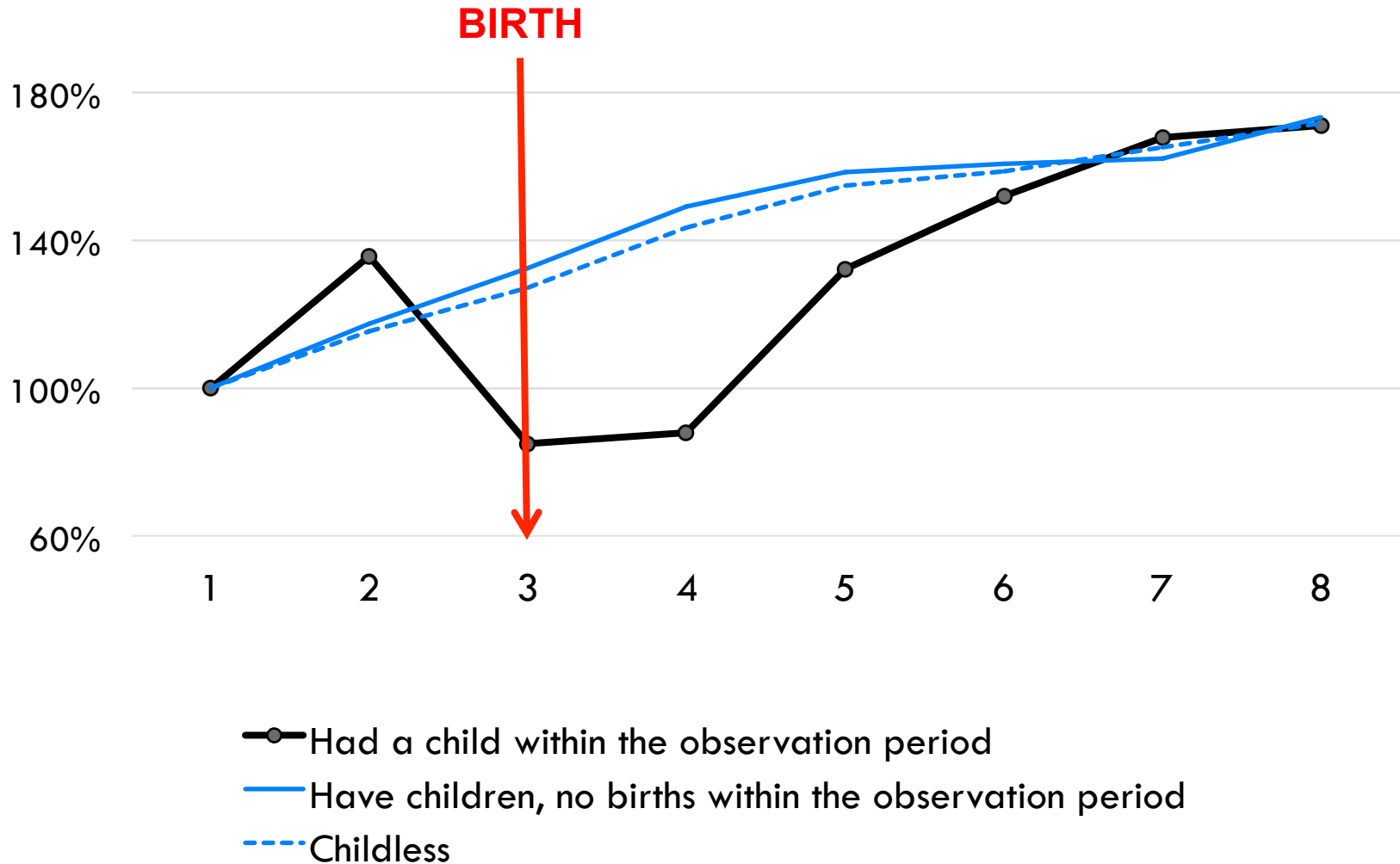| Parameters of the model | | Coefficients | | |
|---|---|---|---|---|
| | | A | B | C |
| | | General model | Model for women with higher education (ISCED >= 6) | Model for women without higher education (ISCED <= 5) |
| Education | No higher education | REF | REF | REF |
| | Higher education (ISCED 6+) | 0.143*** | - | - |
| Age | 20-24 | .007 | -.105*** | .063** |
| | 25-29 | -.026* | -.119*** | .056*** |
| | 30-34 | -.015 | -.024 | -.012 |
| | 35-39 | .054*** | -.028 | .107*** |
| | 40-44 | REF | REF | REF |
| Area of living | Big city | .132*** | .129*** | .149*** |
| | Small city | .065*** | .063** | .081*** |
| | Small town (semi-rural area) | .071*** | .072 | .065** |
| | Rural area | REF | REF | REF |
| Partner status | No partner, never been married | -.027** | -.046** | -.023 |
| | No partner, was married previously | .010 | -.020 | -.026 |
| | Has a partner / Married | REF | REF | REF |
| Health status | Low (2+ chronic diseases) | -.021** | .001 | -.034*** |
| | High | REF | REF | REF |
| Job sector | Industry, business and commercial services | .071*** | .043*** | .089*** |
| | Social and government services | REF | REF | REF |
| Subordinates at work | Yes | .198*** | .036** | .178** |
| | No | REF | REF | REF |
| Model significance | | *** | *** | *** |
| R-squared (adj.) | | .247 | .192 | .197 |

# Motherhood penalty size, %
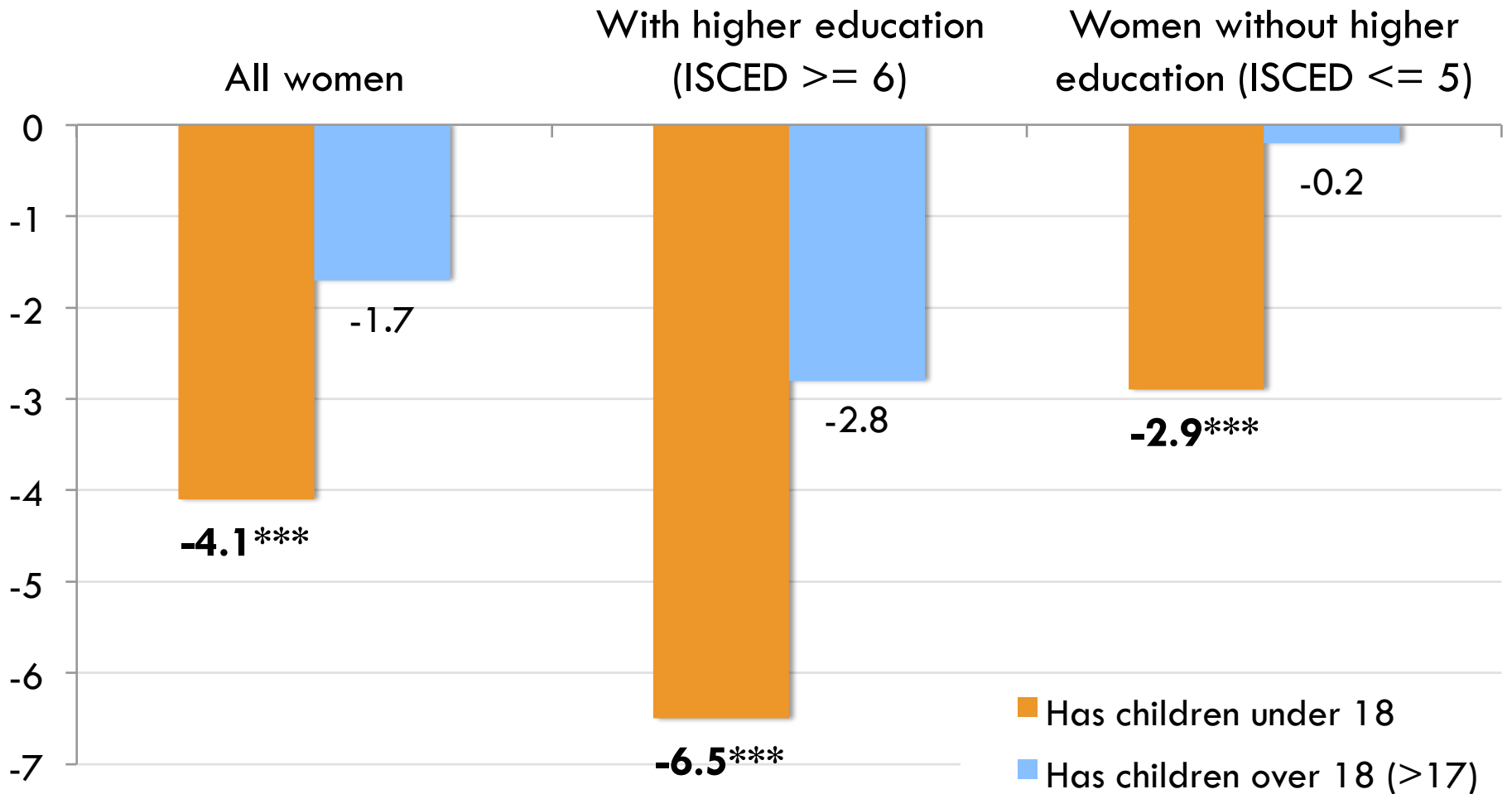
# Conclusions

- Motherhood penalty in Russia comes up to 4,2% of monthly wage for women with children under 18 years old compared to non-mothers.

- The effect is more than 1.5 times stronger for high-educated women.

- No penalty for women with grownup children.


- When does it vanish?

# Dynamics of 'penalty' over time (individual level)



**BIRTH**

Legend:
- Had a child within the observation period
- Have children, no births within the observation period
- Childless

# Some plans for further research

- Dynamics of penalty in 1994-2014

- Augmented procedure of weighting (AIPW)

- Dynamics of penalty over the life course

Thank you!

If you are interested in further details please contact me at **sbiryukova@hse.ru**