

# Variable Definitions and Coding Schemes

**Manuscript:** Platform labour participation and the division of household labour: evidence from the 2023 Chinese Social Survey

**Data source:** CSS2023 (Chinese Social Survey, 2023 wave)

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## 1 Dependent Variables

### 1.1 Domestic Service Purchase (binary)

| Property                | Description                                                                                                   |
|-------------------------|---------------------------------------------------------------------------------------------------------------|
| Variable name           | <code>domestic_serv_buy</code>                                                                                |
| Type                    | Binary                                                                                                        |
| CSS2023 item            | <code>c4a14</code>                                                                                            |
| Definition              | 1 = household reported any positive expenditure on domestic services during the reference year; 0 = otherwise |
| Data transformation     | Original item is continuous (amount in CNY). Binary variable created as <code>c4a14 &gt; 0</code> .           |
| N (full sample)         | 13,035                                                                                                        |
| N (platform workers)    | 690                                                                                                           |
| Mean (full sample)      | 0.029                                                                                                         |
| Mean (platform workers) | 0.067                                                                                                         |

### 1.2 Log Domestic Service Expenditure (continuous)

| Property                | Description                                                               |
|-------------------------|---------------------------------------------------------------------------|
| Variable name           | <code>ln_domestic_serv</code>                                             |
| Type                    | Continuous                                                                |
| CSS2023 item            | <code>c4a14</code>                                                        |
| Definition              | Natural logarithm of annual household domestic service expenditure plus 1 |
| Data transformation     | $\ln(c4a14 + 1)$ . Winsorized at 1st and 99th percentiles.                |
| Mean (full sample)      | 0.10                                                                      |
| Mean (platform workers) | 0.22                                                                      |
| SD (full sample)        | 0.56                                                                      |

### 1.3 Spousal Labour Supply (binary)

| Property                | Description                                                                                      |
|-------------------------|--------------------------------------------------------------------------------------------------|
| Variable name           | <code>spouse_work</code>                                                                         |
| Type                    | Binary                                                                                           |
| CSS2023 items           | a1f2, a1a2                                                                                       |
| Definition              | 1 = spouse is currently employed; 0 = spouse is unemployed, retired, student, or preschool child |
| Sample restriction      | Subsample of respondents whose member-2 relationship is coded as “husband” or “wife” (N = 8,976) |
| Mean (full sample)      | 0.795                                                                                            |
| Mean (platform workers) | 0.911                                                                                            |

### 1.4 Care-duty Labour-force Exit (binary)

| Property        | Description                                                                                                                                                                                                                          |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Variable name   | <code>hh_care_duty</code>                                                                                                                                                                                                            |
| Type            | Binary                                                                                                                                                                                                                               |
| CSS2023 item    | b2a                                                                                                                                                                                                                                  |
| Definition      | 1 = respondent’s primary reason for not being currently employed is “household chores” (n=288), “pregnancy or caring for young children” (n=624), or “caring for elderly family members” (n=121); 0 = otherwise                      |
| Data limitation | The CSS2023 questionnaire routes respondents to item b2a only if they report being presently without work. All 690 platform workers report being employed; therefore this item is not administered to the platform-worker subsample. |

### 1.5 Log Education Expenditure (continuous)

| Property                | Description                                                        |
|-------------------------|--------------------------------------------------------------------|
| Variable name           | <code>ln_edu_expend</code>                                         |
| Type                    | Continuous                                                         |
| CSS2023 item            | c4a12                                                              |
| Definition              | Natural logarithm of annual household education expenditure plus 1 |
| Data transformation     | $\ln(c4a12 + 1)$ . Winsorized at 1st and 99th percentiles.         |
| Mean (full sample)      | 5.22                                                               |
| Mean (platform workers) | 5.98                                                               |
| SD (full sample)        | 4.63                                                               |

## 1.6 Log Intergenerational Support Expenditure (continuous)

| Property                | Description                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------------------|
| Variable name           | ln_support_expend                                                                                       |
| Type                    | Continuous                                                                                              |
| CSS2023 item            | c4a15                                                                                                   |
| Definition              | Natural logarithm of annual household financial transfers to non-coresident parents or relatives plus 1 |
| Data transformation     | $\ln(c4a15 + 1)$ . Winsorized at 1st and 99th percentiles.                                              |
| Mean (full sample)      | 2.74                                                                                                    |
| Mean (platform workers) | 3.51                                                                                                    |
| SD (full sample)        | 3.98                                                                                                    |

## 2 Independent Variable

### 2.1 Platform Work Participation (binary)

| Property        | Description                                                                                                                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Variable name   | <code>platform_work</code>                                                                                                                                                                                          |
| Type            | Binary                                                                                                                                                                                                              |
| CSS2023 items   | b4a5, b6b1                                                                                                                                                                                                          |
| Definition      | 1 = respondent's main job must be completed through an internet platform (b4a5 = "yes") OR respondent's secondary non-agricultural job must be completed through an internet platform (b6b1 = "yes"); 0 = otherwise |
| N (full sample) | 13,035 (690 platform workers, 5.3%)                                                                                                                                                                                 |

### 2.2 Income Calculation Method (Heterogeneity Analysis)

| Variable                        | Item    | Description                            | N (PW) |
|---------------------------------|---------|----------------------------------------|--------|
| <code>hourly_wage</code>        | b4d0z-1 | Paid by hourly wage                    | 51     |
| <code>piece_rate</code>         | b4d0z-2 | Paid by piece rate                     | 169    |
| <code>traffic_commission</code> | b4d0z-3 | Paid by traffic-based commission       | 87     |
| <code>project_commission</code> | b4d0z-4 | Paid by project-based commission       | 90     |
| <code>fixed_salary</code>       | b4d0z-5 | Paid by fixed monthly or annual salary | 369    |

*Note: These categories are not mutually exclusive within the CSS2023 questionnaire.*

## 3 Control Variables

| Variable               | Description            | Item   | Coding                            |
|------------------------|------------------------|--------|-----------------------------------|
| <code>female</code>    | Gender                 | a1e    | 1 = female, 0 = male              |
| <code>age</code>       | Age in years           | a1d    | 2022 minus birth year, continuous |
| <code>age_sq</code>    | Age squared            | —      | $\text{age}^2$                    |
| <code>education</code> | Educational attainment | a4a    | Ordinal, 1–9 scale                |
| <code>married</code>   | Marital status         | a1f1   | 1 = married/cohabiting            |
| <code>hhsz</code>      | Household size         | roster | Continuous                        |
| <code>urban</code>     | Urban/rural residence  | a0a    | 1 = urban, 0 = rural              |
| <code>ln_income</code> | Log household income   | c4a10  | $\ln(\text{c4a10})$               |
| <code>province</code>  | Province FE            | a0b1   | 31 dummies                        |

### 3.1 Education Scale (1–9)

| Value | Label                                           |
|-------|-------------------------------------------------|
| 1     | No formal education                             |
| 2     | Primary school                                  |
| 3     | Junior high school                              |
| 4     | Senior high school / technical secondary school |
| 5     | Vocational school                               |
| 6     | Associate degree (college)                      |
| 7     | Bachelor's degree                               |
| 8     | Master's degree                                 |
| 9     | Doctoral degree                                 |

## 4 Placebo Test Outcomes

| Variable          | Item | Description                                        |
|-------------------|------|----------------------------------------------------|
| social_fairness   | f3b  | Respondent's evaluation of overall social fairness |
| life_satisfaction | d3a6 | Self-reported life satisfaction                    |

*Note: Both placebo outcomes are theoretically unrelated to platform work participation and are used to test for spurious correlation.*

## 5 Data Transformations

[leftmargin=\*]**Winsorization:** All continuous variables are winsorized at the 1st and 99th percentiles. **Log transformation:** Continuous expenditure variables are transformed as  $\ln(\text{value} + 1)$  to handle zero values. **Standardization:** Radar chart variables are standardized to the 0–1 range using min-max normalization:  $(x - \min(x)) / (\max(x) - \min(x))$ .

## 6 Analytical Software

Data processing and main analyses were performed in Stata 18.0. Supplementary analyses (quantile regression, coarsened exact matching, figures) were performed in R 4.4. Figures were generated using Python 3.10 with the matplotlib and seaborn libraries.

*This document provides a complete reference for all variables used in the manuscript.*