**Appendix**

## Appendix A. Dataset Description

Figure A1 exhibits how the working sample of this study was generated in a step-by-step manner. The original CGSS-2017 sample contained 12,582 observations from 27 provinces. In the first step, we excluded 8,363 observations on which the welfare opinion module was not applied. In the second step, we dropped 2,601 observations who were farmers or unemployed. In the third step, we excluded 175 observations due to missing value of occupations. Thus, the final sample is 1,443 observations in this study.

**Figure A1 Flow Chart of the Study Sample**



*Note: C part of CGSS 2017 only selected 4,219 respondents to interview, which focus on social network and Internet society.*

## Appendix B. Comparison of routine/nonroutine occupations in China and Europe

Here, we compare the education and income level of routine/nonroutine occupations in China with those in European countries. The European Social Survey 8 (ESS-8) was used to make comparison. ESS-8 provides information of respondents in 17 European countries in 2016. This dataset also provides a standardized occupational identifier at four-digit ISCO-08 which can help us construct the RTI index for each respondent. First, we transformed the ISCO-08 into ISCO-88 by using the International Labour Organization (ILO) four-digit table. Second, the RTI index from Goos et al. (2014) was linked to ISCO-88. Income was measured by self-reported household income per capita, which was recoded into annual 2016 Purchasing Power Parity (PPP)-adjusted U.S. dollars using exchange rate information from Organisation for Economic Co-Operation and Development (OECD, 2022). We used the square root of the household size to account for the difference in household size and economies of scale.

Table B1 lists the types of occupation by RTI index in China and European countries. In general, occupations in European countries had a higher education and income level compared to the same occupation in China. Similar to the situation in China, non-routine occupations in European countries had a higher education and income level compared with routine occupations. However, there exist bigger gaps in education and income levels between non-routine and routine occupations in European countries.

**Table B1 Levels of education and income for occupations ranked by RTI in China and European countries**

|  |  |  |
| --- | --- | --- |
| **Occupations** | **China** | **European countries** |
| Education(Years) | Equivalized Income (Dollars) | Education(Years) | Equivalized Income(Dollars) |
| **Nonroutine** | **11.99** | **23214** | **13.97** | **28453** |
| General managers | 10.10 | 13837  | 13.06  | 26341  |
| Drivers and mobile-plant operators | 10.26 | 12051  | 11.45  | 19300  |
| Life science and health professionals | 14.92 | 20949  | 17.00  | 35772  |
| Physical, mathematical, and engineering science professionals | 15.91 | 32585  | 16.27  | 36380  |
| Corporate managers | 14.68 | 89981  | 14.79  | 34548  |
| Other professionals | 15.12 | 44957  | 16.57  | 35819  |
| Personal and protective services workers | 10.36 | 15937  | 12.47  | 21244  |
| Other associate professionals | 14.10 | 22702  | 14.23  | 30483  |
| Physical and engineering science associate professionals | 13.35 | 11586  | 13.91  | 30382  |
| Life science and health associate professionals | 14.33 | 17025  | 14.63  | 28639  |
| Extraction and building trades workers | 8.87 | 9378  | 11.63  | 20137  |
| **Routine** | **10.88** | **15139** | **11.82** | **20003** |
| Sales and services elementary occupations | 8.27 | 9705  | 10.72  | 16685  |
| Models, salespersons, and demonstrators | 11.18 | 19975  | 12.30  | 20162  |
| Stationary-plant and related operators | 12.05 | 11560  | 11.01  | 22127  |
| Labourers in mining, construction, manufacturing, and transport | 8.74 | 7325  | 11.20  | 16916  |
| Metal, machinery, and related trades workers | 10.55 | 13986  | 11.91  | 20954  |
| Machine operators and assemblers | 9.09 | 11672  | 10.70  | 17017  |
| Other craft and related trades workers | 8.24 | 7642  | 10.97  | 18272  |
| Customer services clerks | 13.67 | 21878  | 12.85  | 22570  |
| Precision, handicraft, printing, and related trades workers | 7.85 | 9599  | 11.81  | 22809  |
| Office clerks | 14.26 | 22154  | 13.19  | 24001  |

*Note: For nonroutine (negative RTI score) and routine (positive RTI score) occupations, bold figures show average weighted values for RTI, years of education, and income.*

*ISCO=International Standard Classification of Occupations.*

**Appendix C. Control variables**

We controlled for a set of variables at the individual level, including gender (male=1), age, number of years of education, marital status (married=1), membership of the Chinese Communist Party (Party member=1), self-reported health status (good=1), living arrangement (co-residing with family members=1), and self-reported level of income (lower income=1). As employees of state-owned enterprises may enjoy higher job security, we controlled for this factor in multivariate analysis (SOE employee=1). As access to social welfare benefits is still largely conditional on the ownership of a local urban *hukou* (despite the relaxation of restrictions in recent decades), *hukou* status has been found to influence people’s attitudes towards social policies (anonymized, 2021). As a result, we also controlled for *hukou* status in multivariate analysis (urban *hukou*=1).

Individuals’ ideological disposition, particularly egalitarian views, have been repeatedly found to exert a major impact on welfare attitudes. We controlled for this factor in our regression models although it was not the principal variable of interest of this study. In CGSS-2017, egalitarianism was measured by the item ‘To realize social justice, there should be little difference in people’s material living standards.’ Respondents were invited to rate their level of endorsement of this statement on a 1-5 scale where 1 represented ‘strongly agree’ and 5 represented ‘strongly disagree’. We subsequently created a dummy variable by coding ‘strongly agree’ and ‘agree’ as 1. We also controlled for two provincial-level characteristics that may affect people’s social policy preferences. We included the GDP per capita of a province in 2017 and took its natural logarithm to represent its economic status. Because the generosity of welfare provision may be constrained by the policy orientation of local governments and the strategic priority they attach to social services, we controlled for this factor by calculating the percentage of total government spending spent on social services in a province in 2017.

**Appendix D. Descriptive Statistics**

Here we present the descriptive statistics of key variables. As reported by Table D1, close to three quarters of the respondents (72.54%) expected the government to reduce the income gap between the rich and poor, while only 28.23% of them agreed that the government should assume responsibility for people’s old-age support. Clearly, respondents in our sample showed a strong redistributive preference but a low expectation of government responsibility in old-age support.

**Table D1. Descriptive statistics**

|  |  |  |
| --- | --- | --- |
| **Variables** | **Percentage/mean(SD)** | **N** |
| **Dependent variables** |  |  |
| Government redistribution | 72.54% | 1431 |
| Old-age support | 28.23% | 1417 |
| **Independent variable** |  |  |
| RTI | -0.1349 (1.0832) | 1443 |
| **Moderating variables** |  |  |
| Provincial unemployment insurance spending per capita (UIS, RMB) | 561.36 (326.42) | 1443 |
| Provincial old-age pension payment per capita (OPP, RMB) | 5591.53(2543.25) | 1443 |
| **Control variables** |  |  |
| Male | 58.14% | 1443 |
| Age | 40.84 (11.85) | 1443 |
| Education | 11.50 (3.94) | 1443 |
| Married | 78.79% | 1443 |
| Party member | 12.14% | 1442 |
| Good health status | 93.42% | 1443 |
| Co-residing | 67.98% | 1443 |
| Lower income | 37.51% | 1437 |
| Employees of the state-owned enterprises (SOEs) | 17.88% | 1417 |
| Urban *Hukou* | 55.25% | 1439 |
| Egalitarian value | 70.27% | 1433 |
| Provincial GDP per capita (GDP, RMB) | 76031.81 (33329.96) | 1443 |
| Provincial public service expenditure as % of public budget expenditure (Public service) | 8.32 (1.76) | 1443 |

*Note: Provincial Unemployment insurance spending per capita (UIS, RMB), Provincial Old-age pension payment per capita (OPP, RMB), Provincial GDP per capita (GDP, RMB), Provincial Public service expenditure as % of public budget expenditure (Public service) are at the provincial level. The rest of the variables are at the individual level.*

## Appendix E. Moderating effect by hukou status

Here, we examine the effect of the interactive term of RTI and provincial welfare provision (e.g. UIS, OPP) on old-age support by splitting the sample according to the type of respondent’s *hukou* status (urban/rural hukou). Table E1 presents the regression results. It can be seen that the reinforcing effect of provincial welfare provision is only statistically significant among respondents with urban *hukou* status. This finding corresponds to previous studies and is also consistent with our argument regarding the policy feedback effect. This is because individuals with *hukou* status also have access to more local welfare benefits to begin with than their counterparts with rural hukou status. According to the policy feedback theory, people’s prior experiences with generous welfare benefits tend to reinforce their belief that the government should be responsible for welfare provision. Thus, it is reasonable to observe that the reinforcing effect of provincial welfare provision is more salient among urban residents.

**Table E1.** **Logistic models of** **interactions on old-age support by *hukou* status**

|  |  |  |
| --- | --- | --- |
|  | **Urban *hukou* Status** | **Rural *hukou* Status** |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| RTI | -1.779\*\* | -2.938\*\* | 1.452 | 1.784 |
|  | (0.699) | (1.303) | (1.338) | (1.236) |
| ln(UIS) | -0.442 |  | -0.427 |  |
|  | (0.292) |  | (0.312) |  |
| RTI$×$ln(UIS) | 0.301\*\*\* |  | -0.211 |  |
|  | (0.107) |  | (0.217) |  |
| ln(OPP) |  | -0.683\* |  | -0.270 |
|  |  | (0.394) |  | (0.294) |
| RTI$×$ln(OPP) |  | 0.354\*\* |  | -0.191 |
|  |  | (0.150) |  | (0.150) |
|  | (2.218) | (2.903) | (4.207) | (4.075) |
| Log likelihood | -465.38 | -464.51 | -280.15 | -280.97 |
| N | 759 | 759 | 613 | 613 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1*

**Appendix F. Robustness check**

First, when analyzing survey data, researchers are often confronted with the problem of missing data due to non-response in surveys. The common remedial practice is to exclude observations with missing values, which may reduce sample size and lead to estimation bias. A rigorous alternative is to estimate the models with multiple imputed datasets. Hence, we first performed a robustness check by conducting multiple imputation analysis (results presented in *Appendix* F1). Second, linear probability models and probit models are often used to estimate models with binary dependent variables. We re-ran the regressions using these two different methods (results presented in *Appendix* F2 and *Appendix* F3, respectively). Third, respondents in the sample were nested within provinces, so pooling all respondents in multivariate analysis may have resulted in biased standard errors. Therefore, we ran multi-level models in regression analysis (results reported in *Appendix* F4). The results of all robustness checks yielded statistical patterns similar to those shown above, thereby corroborating our main statistical results. Fourth, we restricted our sample to the work-age respondents (age≤55) and re-ran the regression model (results reported in Appendix F5). Finally, we also dropped some samples (respondents whose occupations are related to sales and services elementary occupations, other craft and related trades workers, and customer services clerks are excluded) and re-ran the regression model (results reported in *Appendix* F6).

***F1 Regression analysis with multiple imputed datasets***

**Table F1 Logistic models of social policy preference**

|  |  |  |
| --- | --- | --- |
|  | Government redistribution | Old-age support |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| RTI | 0.043 | 0.125\*\* | -0.949 | -1.599\* |
|  | (0.067) | (0.069) | (0.589) | (0.938) |
| ln(UIS) |  |  | -0.403\*\* |  |
|  |  |  | (0.197) |  |
| RTI$×$ln(UIS) |  |  | 0.173\* |  |
|  |  |  | (0.092) |  |
| ln(OPP) |  |  |  | -0.521\* |
|  |  |  |  | (0.284) |
| RTI$×$ln(OPP) |  |  |  | 0.202\* |
|  |  |  |  | (0.110) |
| Control variables | YES | YES | YES | YES |
| N | 1443 | 1443 | 1443 | 1443 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1*

***F2 Regression analysis with linear probability models***

**Table F2 Linear probability regression of social policy preference**

|  |  |  |
| --- | --- | --- |
|  | Government redistribution | Old-age support |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| RTI | 0.009 | 0.024\*\* | -0.226\* | -0.352\* |
|  | (0.012) | (0.012) | (0.117) | (0.182) |
| ln(UIS) |  |  | -0.071\* |  |
|  |  |  | (0.039) |  |
| RTI$×$ln(UIS) |  |  | 0.040\*\* |  |
|  |  |  | (0.018) |  |
| ln(OPP) |  |  |  | -0.092 |
|  |  |  |  | (0.061) |
| RTI$×$ln(OPP) |  |  |  | 0.044\*\* |
|  |  |  |  | (0.021) |
| Control variables | YES | YES | YES | YES |
| R-squared | 0.116 | 0.082 | 0.089 | 0.088 |
| N | 1389 | 1372 | 1372 | 1372 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1*

***F3 Regression analysis with probit models***

**Table F3 Probit models of social policy preference**

|  |  |  |
| --- | --- | --- |
|  | Government redistribution | Old-age support |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| RTI | 0.023 | 0.074\*\* | -0.620\* | -0.942\* |
|  | (0.040) | (0.036) | (0.337) | (0.554) |
| ln(UIS) |  |  | -0.244\*\* |  |
|  |  |  | (0.116) |  |
| RTI$×$ln(UIS) |  |  | 0.112\*\* |  |
|  |  |  | (0.052) |  |
| ln(OPP) |  |  |  | -0.295 |
|  |  |  |  | (0.180) |
| RTI$×$ln(OPP) |  |  |  | 0.119\* |
|  |  |  |  | (0.065) |
| Control variables | YES | YES | YES | YES |
| N | 1389 | 1372 | 1372 | 1372 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1*

***F4 Regression analysis with multilevel models***

**Table F4 Multilevel analysis of social policy preference**

|  |  |  |
| --- | --- | --- |
|  | Government redistribution | Old-age support |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| RTI | 0.043 | 0.130\*\* | -0.998\* | -1.541\* |
|  | (0.069) | (0.057) | (0.556) | (0.894) |
| ln(UIS) |  |  | -0.412\*\* |  |
|  |  |  | (0.192) |  |
| RTI$×$ln(UIS) |  |  | 0.181\*\* |  |
|  |  |  | (0.086) |  |
| ln(OPP) |  |  |  | -0.500 |
|  |  |  |  | (0.392) |
| RTI$×$ln(OPP) |  |  |  | 0.195\* |
|  |  |  |  | (0.104) |
| Control variables | YES | YES | YES | YES |
| N | 1389 | 1372 | 1372 | 1372 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1*

***F5 Regression analysis of working-age sample***

**Table F5 Logistic regression results of support for government responsibility in old-age support (Working-age sample)**

|  |  |  |
| --- | --- | --- |
|  | Government redistribution | Old-age support |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| RTI | 0.053 | 0.144\*\* | -1.143\*\* | -1.708\*\* |
|  | (0.064) | (0.061) | (0.491) | (0.791) |
| ln(UIS) |  |  | -0.437\* |  |
|  |  |  | (0.241) |  |
| RTI$×$ln(UIS) |  |  | 0.208\*\*\* |  |
|  |  |  | (0.075) |  |
| ln(OPP) |  |  |  | -0.659\*\* |
|  |  |  |  | (0.301) |
| RTI$×$ln(OPP) |  |  |  | 0.217\*\* |
|  |  |  |  | (0.091) |
| Control variables | YES | YES | YES | YES |
| N | 1,239 | 1,225 | 1,225 | 1,225 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses; \*\*\*p<0.01, \*\*p<0.05, \*p<0.1*

***F6 Regression analysis excluding sales, customer service clerks and craft workers***

**Table F6 Logistic regression results of support for government redistribution (excluding sales, customer service clerks and craft workers)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | RTI only | + controls | + UIS | +OPP |
| RTI | 0.077 | 0.044 | 0.044 | 0.044 |
|  | (0.069) | (0.066) | (0.067) | (0.066) |
| ln(UIS) |  |  | 0.111 |  |
|  |  |  | (0.154) |  |
| ln(OPP) |  |  |  | -0.160 |
|  |  |  |  | (0.276) |
| Control variables | YES | YES | YES | YES |
| Log likelihood | -723.93 | -633.52 | -633.31 | -633.26 |
| N | 1229 | 1198 | 1198 | 1198 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses; \*\*\*p<0.01, \*\*p<0.05, \*p<0.1*

**Table H7 Logistic regression results of support for government responsibility in old-age support (excluding sales, customer service clerks and craft workers)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | RTI only | + controls | + UIS | +OPP |
| RTI | 0.202\*\*\* | 0.168\*\*\* | 0.172\*\*\* | 0.170\*\*\* |
|  | (0.055) | (0.061) | (0.060) | (0.060) |
| ln(UIS) |  |  | -0.472\*\*\* |  |
|  |  |  | (0.180) |  |
| ln(OPP) |  |  |  | -0.483 |
|  |  |  |  | (0.312) |
| Control variables | YES | YES | YES | YES |
| Log likelihood | -839.65 | -757.77 | -753.78 | -754.13 |
| N | 1,211 | 1,180 | 1,180 | 1,180 |
| Number of provinces | 27 | 27 | 27 | 27 |

*Note: Robustness standard errors clustered at the provincial level are reported in parentheses; \*\*\*p<0.01, \*\*p<0.05, \*p<0.1*