"Forced Ruralisation of Urban Youth" during Mao's Rule and Women's Status in post-Mao China: An Empirical Study

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Abstract

This study uses data of "Chinese Household Income Project Survey 2002" to investigate long-term impact of Mao's persistent policy of "forced/involuntary ruralisation of urban youth" (*shangshan xiaxiang*, literally "re-settlement in mountains and villages") during the 1950s and 70s on women's labour market participation and contribution to family incomes. Our results indicate that the impact of Mao's forced ruralisation on female labour market participation can be positive (despite diminishing in size due to ageing). In addition, a change from positive to negative impact is largely determined by personal hardship under Maoism and its aftermath. Moreover, regarding female contribution to family incomes, our findings suggest that forcefully ruralised urban women have more bargaining power later in family finance.

Our conclusion is that against all the odds Mao's "forced ruralisation of urban youth" has improved family and societal positions of female victims in the post-Mao era as an unintended consequence of Maoism.

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A. Introduction

The forced or involuntary ruralisation of urban youth scheme (*shangshan xiaxiang*, literally "re-settlement in mountains) in China lasted for three decades from the 1950s throughout the 70s. According to official data, there were in total 17 million young students were "sent down" from cities to the countryside often thousands kilometres away (National Statistical Bureau, 1987), in the name of "re-education by the poor and lower-middle peasants" (*jieshou pinxiazhongnong zai jiaoyu*). This scheme forcefully uprooted large numbers of urban youth from their homes and schools to resettle them in rural regions and embark on physical toil regardless of the age of the victims. By definition, a large proportion of these youngsters became child labourers. In this context, Mao's scheme brutally altered fate as well as mind of one generation's urban youth in China.

So far, there has been only one study that compares two genders among the resettled urban youth (Booth et al. 2018) to see the impact of Mao's policy on that the forced ruralised urban youth. It is thus a topic that has so far been overlooked.

According to the published data of "Chinese Household Income Project Survey 2002", urban women who were subject to the forced ruralisation scheme ("FRS" thereafter) in their school age have had a high labour market participation rate although their participation diminishes with ageing. Such data allow us to seek for a more quantitative revelation regarding the change in female social and economic status in the aftermath of Mao's involuntary scheme of forced ruralisation by looking at (1) female labour market participation and (2) female contribution to family incomes.

Meanwhile, OLS regressions and Heckman two-stage method that we have adopted indicate that the same female group commands a larger share of their family incomes than their counterparts who did not have the FRS experience.

Moreover, this study measures the exogenous shock effect on female labour market participation rate and identifies a positive relationship between the degree of hardship in the countryside endured by FRS victims and the rate of female labour market participation later in life.

Our contribution is two-fold: Firstly, instead of accepting what has been said by China's official media, we probe scale and scope of women's emancipation in Mao and post-Mao's China. Secondly, instead of looking at a linear growth pattern we investigate a vulnerable group of urban girls/women to see how political misfortune was turned around by individuals with conscious choices once inhuman conditions were reversed.

The rest of the paper is arranged as follows: Part B reviews the existing literature; Part C is devoted to survey data; Part D contains empirical analysis; Part E draws final conclusions.

B. Review of literature

Ruralisation of urban youth in Mainland China began in the 1950s as a national policy. But, from 1955 to 1966, the scale of it was relatively limited. During the decade-long "Cultural Revolution" (1966-76), it accelerated to every urban household under the direct order of Mao Zedong (1893-1976) as a compulsory state policy. In Mao's own glorious phrase, "It is vastly *necessary* for urban young people to resettle in the countryside to received re-education from the poor and lower-middle peasants." A tsunami of urban youth resettling in rural China soon followed. This round, over 15 million school-aged urban youngsters were forced to leave their homes, care-takers, and schools on a punitive journey to be de-educated and impoverished in name of re-education in China's poorest and the most backward sector where life was harsh and unforgiving. This was an exogenous

shock to the urban population. Why? Life was too comfy in cities; being comfy meant bourgeois; being bourgeois meant anti-revolutionary – that was according to Mao's restless mind.[4]

A range of works on FRS has been produced. In terms of collective behaviour, Meng and Gregory (2002) and Han, Wing and Zhang (2011) observed how the imposed de-education incentivized the victims to invest in their own education once schooling was allowed later in life. Similarly, Liu Yuan (2016) investigated how interrupted schooling suffered by the bygone urban youth influenced victims' behaviour towards their own children's education which directly contrasts to the group's frugality towards consumer goods (Li et al., 2010; Fan, 2017). So, some types of compensation are highly visible among the FRS generation.

In terms of direct consequences, studies show a range of issues with the FRS victims including low incomes (Xie, Jiang and Greenman, 2008; Yang Juan and Li Shi, 2011; Peng Shuhong, 2016); poor health, commonly below the societal par (Gong, Lu and Xie, 2014), a strong feeling of unhappiness (Qian and Hodson, 2011; Peng Shuhong, 2016), delayed and low-quality marriages (Song and Zheng, 2016; Wang and Zhou, 2017), and a lack of trustworthiness in society (Liang and Li, 2014).

Unlike most works that have lumped women and men under FRS together, Munshi and Rosenzweig (2006) and Jayachandran (2008) argued that the impact of external shocks such as globalization and natural disasters might differ between the two genders. Indeed, an empirical research conducted by Booth et al. (2018) revealed that the Cultural Revolution made Chinese women in general

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[4] Chen et al. (2018) showed that the half-educated urban youth effective upgraded rural human capital. So, it was poor peasants that were on the receiving end of education, against what Mao wished to achieve.

more competitive and risk-taking than their Cultural Revolution-free counterparts. But the impact on FRS women has remained unknown. This is where we begin.

This research probes in two dimensions: (1) female labour market participation rates, and (2) female contribution to family incomes. China's female labour market participation rate has high by the world standard (Pan Jintang, 2002). Studies show that three factors led to this high rate. The first is the ideological promotion of female rights by state policies (Pan Jintang, 2002; Liu Weifang, 2010); the second, market demand for labour especially during post -Mao reforms towards marketisation (Li et al., 2005; Yao and Tan, 2005; Li and Li, 2008); and the third, a rise in costs of living and the tradition of kin obligations (Alesina and Giuliano, 2010; Zhang Chuanchuan, 2011; Shen Ke et al., 2012; Xiong and Li, 2016). However, no study has taken traumatisation caused by compulsory family separation and schooling suspension for a rural labour camp into account of the female employment pattern. Regarding family incomes, studies show that the status and bargaining power inside household matter (Qi Liangshu, 2005; Zhang and Tsang, 2012; Bertrand, 2015). But very few have linked trauma to individual contribution to family incomes.

It can be assumed that individuality can be change by political trauma such as FRS. For example, a comparative study of urban women subject to the Cultural Revolution in Beijing vis-à-vis their counterparts of males in Beijing, females in Taipei, and a younger generation in Beijing concluded that the urban women with the Cultural Revolution in Beijing are more competitive (Booth et al., 2018). Gong, Lu and Xie (2017) discovered the victims became more self-reliant after their family ties were artificially severed by FRS. However, either study investigates female labour market participation rate or female contribution to family incomes associated with FRS.

C. Data and methodology

Based on available survey data, we calibrate female labour market participation rate and female contribution to family incomes as results of changed female individuality to see the impact of by FRS on women's emancipation in China.

C.1. Data

Our data come from "Chinese Household Income Project Survey 2002" which covers 22 out of China's 28 provinces.[5] We use the data for the urban nuclear families (husband, wife and children) to unveil the impact of FRS on women's emancipation in modern China.

Our procedure is as follows: (1) to identify 6,741 wives, 6,514 husbands, and 5,854 children, (2) to match families and yield 6,416 married couples, and (3) to match these couples with their 5,530 children. In addition, we match grandparents with these nuclear families to see home influence on FRS women. We apply clustered standard deviation on the family level to eliminate interplay among siblings of FRS women.[6] We also control the age group by dates of birth between 1937 and 1966 (aged between 37 and 64).[7] This makes a sample of a total of 3,812 married women with an average of 46.3 years old. Of them, 924 were victims of FRS, or 24 percent of the sample. Sixty-three percent of them have paid jobs. They contribute 48 percent to their family incomes.

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[5] This project collected random samples of household employment, health, incomes, and propensities.

[6] This is similar to the work by Zuoteng and Li, 2008.

[7] Mao announced in 1955 "Countryside is a vast platform where much can be achieved" which ushered in the forced ruralisation scheme. The scheme was officially called off in 1978 after Mao died. The youngest FRS victims were 12 years old; and the oldest, 18. Thus, the dates of birth can be set between 1937 (1955-18=1937) and 1966 (1978-12=1966).

C.2. Variables and statistical data

We set the following: (1) Female labour market participation rate is a dependent variable. We use a dummy to show employment status: the value for those who are currently employed is 1; otherwise, 0. (2) Contribution to family incomes is also a dependent variable. To measure female income contribution, we adopt $\ln Y_{wife} / (\ln Y_{wife} + \ln Y_{husband})$. (3) FRS experience is another dummy: she who was ruralised has the value 1; otherwise, 0. (4) Female personal qualities, including age and years of education, make a control variable. (5) Husband's personal qualities make another control variable, including age gap with wives and years of education. (6) Parenting burden is the third control variable. It refers to genders of children (boy = 1, girl = 0), children's schooling (pre-school age = 1, primary school age = 0), and children's senior high schooling (up to senior high = 1, otherwise = 0). (7) Family finance is the last control variable which counts for wife's income of the previous year and husband's income of the current year. The behaviours of these variables are displayed in Tables 1 and 2.[8]

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[8] Our regressions use the logarithmic value. For presentation purposes, though, data in Tables 1 and 2 are not in logarithm.

Table 1. General Information of Statistical Data

Variable	N	Mean	p50	Sd	Min	Max
Female labour market participation	3812	0.630	1	0.480	0	1
Contribution to family incomes	3812	0.480	0.490	0.110	0	1
Ruralised	3812	0.240	0	0.430	0	1
Duration of ruralisation	3812	1	0	2.290	0	30
Woman age	3812	46.28	46	6.330	37	64
Woman schooling (years)	3812	10.12	10	3.020	0	23
Male offspring	3812	0.530	1	0.500	0	1
Offspring with primary schooling	3812	0.0200	0	0.150	0	1
Offspring with up to senior high schooling	3812	0.520	1	0.500	0	1
Spouse's age difference	3812	2.090	2	2.660	-9	22
Husband's education (years)	3812	10.80	11	3.110	0	23
Husband's current year incomes	3812	11799	10000	8299	0	100000
Female's previous year incomes	3812	7919	6575	6204	0	95000

Table 2. Statistical Data for FRS Women and their Non-FRS Counterparts

	FRS			Non-Ruralised			t Test
Variable	N	Mean	Sd	N	Mean	Sd	Mean diff[9]
LPR	926	0.600	0.490	2886	0.640	0.480	0.04**
CFI	926	0.490	0.110	2886	0.480	0.110	-0.01***
FR	926	1	0	2886	0	0	-1
DCR	926	4.110	2.970	2886	0	0.100	-4.11***
WA	926	47.89	3.850	2886	45.76	6.860	-2.13***
WS	926	10.58	2.540	2886	9.970	3.140	-0.61***
MO	926	0.510	0.500	2886	0.540	0.500	0.0300
OPS	926	0.0200	0.130	2886	0.0200	0.150	0.0100
OSH	926	0.450	0.500	2886	0.540	0.500	0.09***
SAG	926	1.720	2.400	2886	2.210	2.730	0.49***
HSY	926	10.76	10.00	2886	10.82	11.00	0.06
HCI	926	11994	8134	2886	11736	8352	-257.7
WPI	926	8419	5902	2886	7759	6291	-660.42***

Notes: (1) ***, **, * at 1%, 5%, 10% significant levels, respectively. (2) LPR - Labour participation rate; CFI – Contribution to family incomes; FR – Forced ruralisation; DFR – Duration of forced ruralisation; WA – Woman age; WS – Woman schooling (years); MO – Male offspring; OPS – Offspring at primary schooling age; OSH – Offspring with up to senior high schooling; SAG – Spouse's age gap; HSY – Husband's schooling (years); HCI – Husband's current year income; WPI – Woman previous year income.

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[9] Non-ruralised women mean = urban women mean.

It turns out that the FRS group commands a higher share in family incomes at 49 percent versus 48 percent for the non-ruralised counterparts as well as for the overall average. But the group has 60 percent of labour market participation rate, lower than eight the female average (63 percent) or the non-ruralised group (64 percent). Our explanation is that the FRS group faced retirement age during the survey.[10]

D. Empirical modelling and test

D.1. Impact of ruralisation on female labour market participation

Our empirical model is established as:

$$y_i = \beta_1 * sentdown_i + \beta_2 sentdown_i * age_i + \gamma * X + \varepsilon_i \qquad (1)$$

Where y_i denotes woman$_i$ partaking in labour market; $sentdown_i$ is a key dummy variable to capture FRS experience of woman$_i$; age_i, an age viable which influences employment; X, a combined control variable that includes women's age, education, gender and age of children, previous year income, husband's current year income, and a location dummy; ε_i, a random disturbance term.

Between the two common choices of modelling – the linear probability model and nonlinear probability model (either logit or probit) – we opt for the former simply because it is better suited for evaluating partial effect. We nevertheless report probit result as a supplement to capture marginal effect to insure the robustness of our results. Table 3 contains our regression results for Model 1. Columns (1), (2)

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[10] Age matters, see Booth et al. (2018), and Gong, Lu and Xie (2017) argued that, although FRS trigged personal endeavour for success, personal competitiveness declined with age.

and (3) contain personal qualities, family burden and family finance, respectively; Column (4) is for robustness test with a probit approach.

Table 3. Impact of FRS on Female Labour Market Participation Rate

Variable	(1) OLS	(2) OLS	(3) OLS	(4) Probit
FR	0.684***	0.658***	0.735***	0.398**
	(0.18)	(0.18)	(0.18)	(0.19)
FR·Age	-0.014***	-0.014***	-0.015***	-0.008**
	(0.00)	(0.00)	(0.00)	(0.00)
WA	-0.035***	-0.035***	-0.036***	-0.032***
	(0.00)	(0.00)	(0.00)	(0.00)
WS	0.031***	0.032***	0.024***	0.024***
	(0.00)	(0.00)	(0.00)	(0.00)
MO		0.002	-0.002	-0.001
		(0.01)	(0.01)	(0.01)
OPS		0.044	0.043	0.005
		(0.05)	(0.04)	(0.05)
OSH		0.030**	0.033**	0.019
		(0.01)	(0.01)	(0.01)
HCI			-0.014**	-0.011*
			(0.01)	(0.01)
WPI			0.055***	0.051***
			(0.00)	(0.01)
Location dummy	Y	Y	Y	Y
_cons	2.037***	1.994***	1.767***	4.424***
	(0.07)	(0.08)	(0.09)	(0.40)
N	3812	3812	3812	3812
R^2/Pseudo R^2	0.324	0.324	0.365	0.3297

Notes: (1) ***, **, * at 1%, 5%, 10% significant levels, respectively. Figures within brackets are family-level clustered robust standard errors. (2) FR – Forced ruralisation; WA – Woman age; WS – Woman schooling (years); MO – Male offspring; OPS – Offspring at primary schooling age; OSH – Offspring with up to senior high schooling; HCI – Husband's current year income; WPI – Woman previous year income.

Now, taking a partial derivative with $dy/dsentdown = 0.735 + (-0.015)* age$ (Column 3), we obtain the threshold value at 49 years of age, meaning that those who were younger than 49 in 2002 (hence born after 1952) FRS produced positive effect on their labour market participation and those who were older than 49 in 2002 (born before 1952) FRS produced negative effect on their labour market participation. Moreover, the higher the education level, the higher the labour market participation rate. Furthermore, those who raise children up to senior high schooling have higher labour market participation. This is however not obvious in the probit model. Finally, the higher the incomes for women, the higher the labour market participation by them; but the higher the husbands' incomes, the lower the labour market participation by women. Of the four findings, the factor of FRS is what we are interested in. We argue that FRS made urban women more determined, independent and self-reliant, which was translated into more labour market participation, *ceteris paribus*. Such a result is compatible with several other studies.[11]

D.1.1. Shocks and heterogeneity

Our next issue is whether FRS hardship also had any impact. China's 2002 Household Income Project contains useful information of FRS victims' family political status, namely "good/bad families" and (2) "loyal/disloyal families".[12] Evidently, women from "good families" were less likely to become victims of FRS than their "bad family" counterparts. Moreover, being from "good families" and

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[11] Gong, Lu and Xie (2017) argued that FRS victims believed in personal effort and personal skills through education instead of one's family background or luck. Moreover, Semykin and Linz (2007), Heineck and Anger (2010), Heckman, Stixrud and Urzua (2006), Borghans et al. (2008) all argued that those who believe in personal effort often fetch higher incomes.

[12] Political lineage went rampant during the Cultural Revolution with the assertion that political alignment and loyalty were heritable. It was the rationality for society-wide and caste-like political discrimination in education, employment and promotion, see Liu Xiaomeng, 1995. "Good families" were typically associated with three castes: "revolutionary cadres," "poor peasants" and "proletarians".

"loyal families" effectively shortened the duration of individuals staying in the countryside under FRS (see Table 4).[13]

Table 4. Woman Family Status and FRS Suffering

Type	FRS chance	FRS duration
"Good family"	0.178	3.99
"Bad family"	0.246	4.461
Father as CCP member*	0.186	3.634
Father as a non-CCP member	0.192	4.333

Note: CCP -   Chinese Communist Party. * Parents' membership of the ruling communist party is a proxy of good/loyal family status.

Here, to see FRS impact in relation to victims' family backgrounds, [14] our regressions are set to reveal a possible link between family backgrounds, i.e. socio-political stratification (Sato and Li,2007) or parent party memberships (Li et al.,2007), and victims' personal ability. We then factor the two family status variables in our regression. In Table 5, Columns (1) and (2) refer to the "good/bad" categories, respectively; and Columns (3) and (4), the "loyal/disloyal" categories.

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[13] Zhou and Hou (1999), Qian and Hodson (2011) revealed that those who had the party-membership family background stayed in the rural sector shorter than their counterparts.

[14] Available data, such as CFPS2010 (or "China's Family Panel Studies 2010") and CHARLS 2014 (or "China Health and Retirement Longitudinal Study"), do not offer enough information for regressions. We thus push victims' age further back for empirical analysis without sacrificing the accuracy of results.

Table 5. Impact of Family Status on Labour Market Participation Rate of Female FRS Victims

	(1) Good family	(2) Bad family	(3) Loyal family (CCP father)	(4) Disloyal family (Non-CCP father)
FR	1.130***	0.585*	0.658**	1.182***
	(0.21)	(0.33)	(0.33)	(0.20)
FR·Age	-0.024***	-0.012*	-0.015**	-0.024***
	(0.00)	(0.01)	(0.01)	(0.00)
WA	-0.028***	-0.031***	-0.020***	-0.030***
	(0.00)	(0.00)	(0.00)	(0.00)
WS	0.023***	0.023***	0.023***	0.021***
	(0.00)	(0.01)	(0.00)	(0.00)
MO	-0.019	0.037	-0.015	-0.004
	(0.01)	(0.03)	(0.02)	(0.01)
OPS	-0.091***	-0.157***	-0.039	-0.121***
	(0.02)	(0.05)	(0.03)	(0.02)
OSH	0.078***	0.060**	0.091***	0.063***
	(0.01)	(0.03)	(0.02)	(0.01)
HCI	-0.007	-0.034***	0.004	-0.016***
	(0.01)	(0.01)	(0.01)	(0.01)
WPI	0.058***	0.057***	0.060***	0.058***
	(0.00)	(0.01)	(0.01)	(0.00)
Location dummy	Y	Y	Y	Y
_cons	1.264***	1.594***	0.868***	1.437***
	(0.08)	(0.18)	(0.14)	(0.09)
N	4004	891	1661	3234
Adj R^2	0.359	0.378	0.291	0.373

Notes: CCP – Chinese Communist Party. (1) ***, **, * at 1%, 5%, 10% significant levels, respectively. Figures within brackets are family-level clustered robust standard errors. (2) FR – Forced ruralisation; WA – Woman age; WS – Woman schooling (years); MO – Male offspring; OPS – Offspring at primary schooling age; OSH – Offspring with up to senior high schooling; HCI – Husband's current year income; WPI – Woman previous year income.

The results in Table 4 allow us to conclude the following: Firstly, family status does not change the general trend of female FRS victims' labour market participation rate, which supports the robustness of our initial results. Secondly,

family status influenced the threshold for a change in direction of labour market participation. Women from "good families" switched direction in labour market participation at the age of 47.08 years, while those from "bad families" at 48.75 years. Similarly, women with a party-member father switched direction in labour market participation at the age of 43.87 years, and the non-party farther group at the age of 49.25.

Our view is that women's individual ability is positively correlated to their personal determination to do well in life which in turn was determined by the intensity and duration of their FRS trauma, *ceteris paribus*. Women from bad and disloyal families have a longer working life because their greater sufferings under FRS. Those from "desirable families" suffered less and consequently had less desire to work.[15]

Women with non-party parents having a longer working life despite the fact that the offspring of party members often possess greater personal ability supports our view that personal inner ability is a secondary factor compared with Mao's external FRS shock. In other words, we attribute a longer female working life more to the FRS shock than personal ability. Clearly, women from "desirable families" suffered from FRS but they suffered less. They consequently worked less in later life.

D.1.2. Further test on FRS peers

We now take one step further to compare married couples who were free from FRS with (1) married couples with one spouse under FRS, and with (2) married couples both under FRS. It can be expected that married couples both under FRS demonstrate more impact from FRS. The results are shown in Table 6.

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[15] In other words, if the absence of the communist party membership can be seen as a proxy of a low ability of parents that can be inherited by their daughters, the non-party parent group's higher labour participation rate suggests a learned ability from the FRS environment.

Table 6. Peer Comparisons

	(1) Both FR	(2) One FR	(3) WLP	(4) WLP
FR	0.826***	0.464*	0.518**	
	(0.25)	(0.26)	(0.23)	
FR·Age	-0.017***	-0.010*	-0.014***	
	(0.01)	(0.01)	(0.00)	
WA	-0.036***	-0.036***	-0.036***	-0.036***
	(0.00)	(0.00)	(0.00)	(0.00)
WS	0.023***	0.022***	0.022***	0.024***
	(0.00)	(0.00)	(0.00)	(0.00)
MO	-0.010	-0.005	-0.001	-0.002
	(0.01)	(0.01)	(0.01)	(0.01)
OPS	0.075*	0.026	0.042	0.048
	(0.04)	(0.04)	(0.04)	(0.04)
OSH	0.028*	0.026*	0.033**	0.036***
	(0.02)	(0.01)	(0.01)	(0.01)
HCI	-0.014**	-0.013**	-0.013**	-0.014**
	(0.01)	(0.01)	(0.01)	(0.01)
WPI	0.055***	0.055***	0.055***	0.055***
	(0.01)	(0.01)	(0.01)	(0.00)
FR·WS			0.013*	
			(0.01)	
FR·WPI			0.004	
			(0.01)	
DWFR				0.111***
				(0.04)
FRD·Age				-0.002***
				(0.00)
Location dummy	Y	Y	Y	Y
_cons	1.786***	1.828***	1.802***	1.797***
	(0.10)	(0.10)	(0.10)	(0.09)
N	2888	3315	3812	3812
Adj R²	0.398	0.377	0.366	0.364

Notes: (1) ***, **, * at 1%, 5%, 10% significant levels, respectively. Figures within brackets are family-level cluster robust standard errors. (2) FR – Forced ruralisation; WLP – Woman labour participation; WA – Woman age; WS – Woman schooling (years); MO – Male offspring; OPS – Offspring at primary schooling age; OSH – Offspring with up to senior high schooling; HCI – Husband's current year income; WPI – Woman previous year income; DWFR – Duration of woman forced ruralisation.

Column (1) contains data for married couples who were both subject to FRS and married couples who were completely free from FRS; Column (2), families in which one spouse subject to FRS and married couples who were completely free from FRS. Regarding the threshold for a change in direction of labour market participation, the age was 48.59 years old for married couples who were both subject to FRS and 46.40 for families in which one spouse subject to FRS. This is consistent with our hypothesis,FRS made individuals work hard late in life. Column (3) takes into account the interplay between FRS and women's education and income. The impact of FRS remains significant. Column (4) substitutes FR dummy with FRS duration and yields significant results, too. They confirm the robustness of our model.

D.2. FRS and women's contribution to family incomes

We take women's contribution to family incomes as a proxy for FRS impact on family life. To eliminate the influence of labour market participation, we use Heckman two-stage method, similar to Li et al. (2005), and hence come up with an estimation function:

$$y_i = \beta * sentdown_i + \lambda * X + \varepsilon_i \qquad (2)$$

Where y_i shows the income share of woman$i$ in her family income pool; $sentdown_i$, a dummy to indicate FRS experience of woman$_i$; X, a control variable that includes woman education (years), husband's education (years), married couple's age gap, child gender (boy = 1), child primary schooling (pre-school = 1), child up to senior high schooling (yes = 1), and a location dummy; ε_i, a random disturbance term.

Moreover, our selection equation as follows:

$$S_i = \gamma * Z + \mu_i \hspace{4cm} (3)$$

Where S_i = 1, if woman$_i$ has a job; S_i = 0, if she does not; μ_i, a random disturbance term. Meanwhile, $sentdown_i$ and X of Equation (2) serve as a subset of Equation (3). Table 7 contains regression results.

Table 7. Impact of FRS on Woman Contribution to Family Incomes

Variable	(1) OLS	(2) Heckman I	(3) Heckman II	(4) Heckman III
FR	0.009**	0.013***	0.003***	
	(0.00)	(0.00)	(0.00)	
WS	0.007***	-0.003***	0.000	-0.003***
	(0.00)	(0.00)	(0.00)	(0.00)
HS	-0.003***	-0.003***	-0.001***	-0.003***
	(0.00)	(0.00)	(0.00)	(0.00)
CAG	-0.001	-0.000	0.000	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)
MO	0.009***	0.008**	0.002**	0.007**
	(0.00)	(0.00)	(0.00)	(0.00)
OPS	0.002	0.001	-0.002	0.001
	(0.02)	(0.01)	(0.00)	(0.01)
OSH	-0.001	-0.012***	-0.004***	-0.012***
	(0.00)	(0.00)	(0.00)	(0.00)
WFRD				0.004***
				(0.00)
Location dummy	Y	Y	Y	Y
_cons	0.431***	0.596***	0.509***	0.596***
	(0.01)	(0.01)	(0.00)	(0.01)
Rho		-0.992***	-0.871***	-0.992***
		(0.002)	(0.028)	(0.002)
sigma		0.091***	0.022***	0.091***
		(0.005)	(0.001)	(0.005)
lambda		-0.091***	0.020***	0.091***
		(0.005)	(0.001)	(0.005)
N	3812	3812	3783	3812
Adj R^2	0.038			

Notes: (1) ***, **, * at 1%, 5%, 10% significant levels, respectively. Figures within brackets are family-level clustered robust standard errors. (2) FR – Forced ruralisation; WS – Woman schooling (years); HS – husband's schooling (years); CAG – Couple's age gap; MO – Male offspring; OPS – Offspring at primary schooling age; OSH – Offspring with up to senior high schooling; WFRD – Woman forced ruralisation duration.

A few observations can be made here. First of all, with the conventional OLS method, Column (1) shows that FRS enhances female contribution to family incomes. Moreover, in terms of the control variable, female contribution to family incomes is positively related to women's own education but negatively related to their husbands'; mothers of boys also have a larger share in family incomes.

Second, with the Heckman method for likelihood ratio test, Column (2) rejects the assumption of mutual independence between aforementioned Equations (2) and (3) (P = 0.00) to justify our choice of the sample. Our Heckman results indicate that the impact of FRS on female contribution to family incomes is significant and on the rise. It is also clear that female labour market participation rate is a separated issue. Moreover, Column (3) shows four-year average female family income contribution and Heckman two-stage regression to eliminate macro-economic impact on women's incomes. The impact of FRS on female contribution to family incomes is still significant.

Thirdly, Column (4) substitutes the FRS dummy with duration of FRS for female individuals, the result again is significant. So, our income contribution results are robust.

Early studies suggest that family income contribution is a benchmark for female bargaining power in a household (Bertrand, 2015; Qi Liangshu, 2005). Factor FRS in, we see women subject to FRS obtain more competitiveness not only in society but also inside their families *à la* Booth et al. (2018). FRS thus enhanced women's position inside their families.

D.3. FRS and changes in personal qualities

We now examine the weight of FRS on changes in personal qualities (Gong et al., 2017). Our data come from "Chinese General Social Survey 2006". We examine the population cohort who were born from 1937 to 1966 to match our earlier data choice. The factors for our consideration are fate, birth place, family wealth, intellect, ambition and endeavour. The first three factors are things that the surveyee has no control over; and the last three show surveyees' personal inspiration and effort. The surveyee was asked to rank from 1 to 5. The lower the rank, the higher the weight of the factor.

Our key explanatory variable is FRS. We use a number of characteristic variables (age, own education, and ruling party membership), family data (number of siblings, parents' education and ruling party membership), and a location dummy. The regression is run with an ordered probit model.

Table 8. FRS on Changes in Woman Belief System

	(1)	(2)	(3)	(4)	(5)	(6)
	Fate	Birth place	Family wealth	Intellect	Ambition	Endeavour
FR	-0.009	-0.084	0.120**	-0.128**	-0.158**	-0.124**
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Edu	-0.002	0.011**	0.005	-0.003	-0.005	0.001
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.001	0.009***	0.008***	0.001	-0.000	0.001
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender	0.092***	0.006	-0.007	0.019	-0.022	-0.024
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
PM	0.087*	0.062	0.122**	0.043	-0.017	0.023
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Eth	-0.083	-0.026	0.047	-0.382***	-0.278***	-0.287***
	(0.06)	(0.06)	(0.07)	(0.07)	(0.07)	(0.06)
UR	-0.224***	-0.044	0.005	-0.153***	-0.148***	-0.166***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Emp	0.052	0.056	0.043	-0.055	-0.049	-0.029
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Sblg	0.005	0.001	0.001	-0.003	0.005	0.014*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
FS	0.009**	-0.005	0.004	-0.002	0.001	0.003
	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)
FPM	-0.046	0.124*	0.040	-0.017	-0.118*	-0.081
	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
MS	-0.015***	0.004	-0.009	0.001	-0.001	-0.009
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
MPM	0.050	0.059	0.015	0.175	-0.234	-0.143
	(0.13)	(0.14)	(0.14)	(0.15)	(0.15)	(0.14)

Location dummy	Y	Y	Y	Y	Y	Y
N	5722	5722	5722	5722	5722	5722
Pseudo R²	0.0279	0.0267	0.0280	0.0358	0.0387	0.0059

Notes: Notes: (1) ***, **, * at 1%, 5%, 10% significant levels, respectively. Figures within brackets are robust standard errors. (2) FR – Forced ruralisation; Edu – Education (years); PM – Ruling party membership; Eth – Ethnicity; UR – Urban residence; Emp – Employment; Sblg – number of siblings; FS – Father's schooling; FPM – Father with ruling party membership; MS – Mother's schooling; MPM – Mother with ruling party membership.

Results in Table 8 demonstrate that although fate and birth place have no much weight the FRS group values intellect, ambition and endeavour higher than the non-FRS group. The FRS group also sees less importance in family wealth than its non-FRS counterpart. For both groups. Such results are similar to observations made by Gong et al. (2017) and Booth et al. (2018).

D.4. Comparison with male FRS victims

Finally, we compare male FRS victims with their female counterparts to see any difference. Table 9 shows that FRS has no significant impact on either male labour market participation or male contribution to family incomes. If true, the impact of FRS trauma seems female specific.

Table 9. Impact of FRS on Male Labour Market Participation Rate and Contribution to Family Incomes

	(1) Labour participation	(2) Labour participation	(3) Income contribution	(4) Income contribution
FR	-0.215		0.003	
	(0.16)		(0.00)	
FR・Age	0.006*			
	(0.00)			
DFR		-0.020		0.001
		(0.04)		(0.00)
DFR・Age		0.001		

	(0.00)			
Age	-0.030***	-0.030***		
	(0.00)	(0.00)		
MS	0.003	0.004*	-0.000	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)
WS			0.007***	0.007***
			(0.00)	(0.00)
CAG			-0.004***	-0.004***
			(0.00)	(0.00)
MO			0.006*	0.006*
			(0.00)	(0.00)
OPS	-0.012	-0.015	0.005	0.005
	(0.03)	(0.04)	(0.02)	(0.02)
OSH	-0.005	-0.007	0.005	0.005
	(0.01)	(0.01)	(0.00)	(0.00)
MPI	0.076***	0.076***		
	(0.01)	(0.01)		
WI	-0.006*	-0.006*		
	(0.00)	(0.00)		
Location dummy	Y	Y	Y	Y
_cons	1.630***	1.625***	0.397***	0.397***
	(0.08)	(0.08)	(0.01)	(0.01)
N	3812	3812	3812	3812
Adj R²	0.334	0.332		

Notes: (1) ***, **, * at 1%, 5%, 10% significant levels, respectively. Figures within brackets are robust standard errors. (2) FR – Forced ruralisation; DFR – Duration of FR; MS – Male schooling (years); WS – Wife's schooling; CAG – Spouse age gap; MO – Male offspring; OPS – Offspring at primary schooling age; OSH – Offspring with up to senior high schooling; MPI – Male previous year's income; WI – Wife's income.

A sensible explanation is that husbands have been breadwinners both during and after Mao's rule. Women's employment is traditionally optional. They may have been forced to work under Mao (Pan Jintang, 2002), but are able to exit the labour market in the post-Mao era (Peng Qingqing, 2017). In contrast, China's traditional family labour distribution makes males unable to exit the labour market freely. Therefore, FRS has had less influence on male labour participation *ex post*. If

women have more choices but still work for income, FRS must be partly responsible.

E. Final conclusions

Mao's FRS was a *force majeure* for innocent individuals in urban China. It brought unnecessary hardships and suffering upon over 10 million young victims who were school-age adolescents. The only reason for these teenagers to be "sent down to the countryside" was because they were urban.

However, decades later, the externalities of Mao's fatuous and absurd policy show made female victims motivated to turn their misfortunes around successfully. It is all about self-esteem and personal determination to do well after the *force majeure*. The unintended consequence has turned out to be a gain in female emancipation. This in our view is the best revenge on the tyranny of Mao's dictatorship.

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