

Choosing Ethnicity: The Interplay between Individual and Social Motives

Ruixue Jia (UCSD) and Torsten Persson (IIES)

JEEA

May 10, 2022

Broad research question

How do social norms and policy interventions shape identity? Existing research:

- ▶ social and intrinsic motives (Akerlof and Kranton 2000, Bisin-Verdier 2000, Bisin-Topa-Verdier 2001) → persistence
- ▶ economic incentives (Bates 1974, Botticini-Eckstein 2007, Cassan 2012, Nix and Qian 2015) → fluidity

But individual and social motives likely interact

- ▶ do social motives crowd in or crowd out stronger material motives?

This paper

Formulates a model where choice of children's ethnic identity

- ▶ is subject to choice
- ▶ depends on interaction of individual and social motives
- ▶ can display **both crowding in and crowding out**
 - ▶ departure from assuming complementarity

Analyzes microdata from Chinese censuses that

- ▶ provides two facts as a starting point for analysis
- ▶ allows us to test the model's central and additional predictions
- ▶ lets us examine alternative explanations for patterns in data

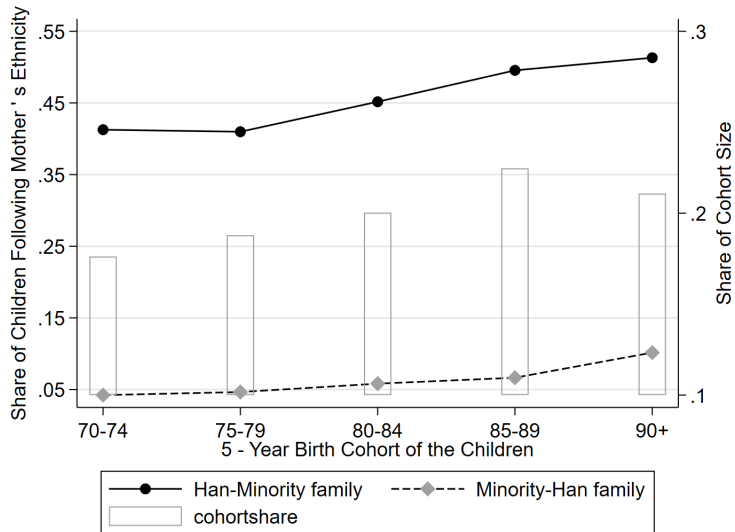
Why China?

Interesting testing ground for ethnic policies and family choices.

- ▶ in 2010: Han (~1.2 billion) + 55 minorities (~ 105 million)
- ▶ great regional dispersion: minority share from 0.3% (Jiangxi) to 94% (Tibet)
- ▶ mixed ethnic couples free to choose whichever ethnicity for their children
- ▶ policies favoring minorities took a leap around 1980, related to the rollout of one-child policy
- ▶ availability of microdata

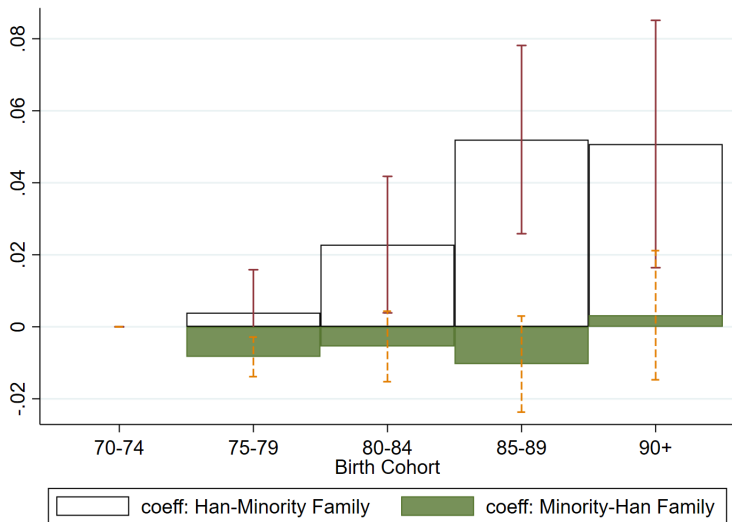
Two facts on minority children in mixed marriages 1

Aggregate data



Two facts on minority children in mixed marriages 2

Individual data



Two facts on minority children in mixed marriages

F1 *The average share of children with their mother's ethnicity is much higher in Han-minority families than in minority-Han families. Han-minority families thus have a higher propensity to break the social norm.*

F2 *The propensity to break the social norm – i.e., to give children their mother's ethnicity – is increasing in Han-minority families after 1980.*

Roadmap to this talk

1. Present a model consistent with **F1-F2**
material benefits/intrinsic costs/social norms
2. Test main prediction **P1** of model
3. Test additional predictions **P2**
4. Alternative explanations for the results?
5. Conclude

Anecdotal Evidence

the role of material benefits/intrinsic costs/social norms

父亲是汉族，母亲是少数民族，那孩子的民族怎么决定？可以随母亲吗？

父亲是汉族，母亲是少数民族，那孩子的民族怎么决定？可以随母亲吗？wsjssc

"If the father is a Han and the mother is a minority, could the child be a minority?"



林墨宝贝轩

来自：网页 2012-08-28

小 Generally should follow the father's. But following the mother's has the benefits of ethnic favors.

一般都随父亲，听说这样的孩子聪明，不过随母亲有好处，少数民族人国家有照顾

👍 0



郭萌萌

小女孩 4岁2个月

来自：网页 2012-08-28

Ok. I have a friend who followed the mother's.

可以的。。。。我有个朋友就随母亲的

👍 2



菁儿2011

小男孩 6岁9个月

来自：网页 2012-08-28

Generally should follow the father's. It is fine if you insist on following the mother's.

一般都是随父亲的，你一定要随母亲应该问题也不大

👍 0



喊俺雷琳琳

小女孩 3岁7个月

来自：网页 2012-08-28

The parent can make a choice. It is fine following the mother's.

父母可以自己决定，随母亲也行的

👍 0



三口之家兔

小男孩 3岁

来自：网页 2012-08-28

The child should follow the father's ethnicity. Only the children of a live-in husband will follow the mother's.

亲这样的话，孩子的民族一般是跟着孩子的父亲的，如果是跟着母亲的话，一般是上门女婿才可以的啊。

👍 0



西西*011

小男孩 2岁

来自：网页 2012-09-02

You can follow the mother's. A minority has the option of having a second child.

可以随母亲，当个少数民族，然后还可以再生一个。

👍 0

1. Model of Ethnic Choices

Choices by mixed couples

- ▶ individual motives vs social motives (norm + reputations), an extension of Benabou-Tirole (2011)

Consider a prefecture-cohort with a continuum of couples

- ▶ 2 ethnicities, $J \in \{H, M\}$
- ▶ children yield same basic benefit for everyone, v
- ▶ each couple chooses minority status or not for their children, $m \in \{0, 1\}$ – an *observable* choice
- ▶ trivial choice for same-ethnicity couples
- ▶ assume m primarily reflects man's preferences
- ▶ norm says prosocial thing is to give child man's ethnicity

Han-Minority mixed couples

Preferences of couple

$$u = v + (b - e(H) - \varepsilon)m + \mu E(\varepsilon | m)$$

- ▶ b : *material* individual benefit of minority child
- ▶ $e(H)$: *intrinsic* individual mean cost of non-Han child
- ▶ ε : intrinsic individual idiosyncratic and *unobservable* cost: $E(\varepsilon) = 0$, c.d.f. $G(\varepsilon)$, single-peaked, p.d.f. $g(\varepsilon)$
- ▶ high (low) $\varepsilon \Rightarrow$ couples choose $m = 0$ (1), Han (Minority)
- ▶ $E(\varepsilon | m)$: social reputation in *peer group*: the couple's "expected type" given m , which helps signal its type

$$\Delta = E(\varepsilon | m = 0) - E(\varepsilon | m = 1)$$

is gain in social reputation (self-image) of acting prosocially: "honor of right choice less stigma of wrong choice"

Equilibrium and the social multiplier

Model implies a cutoff value of ε defined by

$$b - e(H) - \varepsilon_H^* = \mu \Delta(\varepsilon_H^*)$$

- ▶ at ε_H^* individual net benefit of a minority child balances gain in social reputation of a Han child
- ▶ couples with $\varepsilon < \varepsilon_H^*$ choose $m = 1$

Probability to see minority child is $G(\varepsilon_H^*)$

- ▶ effect of higher benefits b is positive

$$\frac{dG(\varepsilon_H^*)}{db} = g(\varepsilon_H^*) \frac{\partial \varepsilon_H^*}{\partial b} = g(\varepsilon_H^*) \frac{1}{1 + \mu \frac{d\Delta}{d\varepsilon^*}}$$

- ▶ size of effect depends on the density $g(\varepsilon_H^*)$, and the “social multiplier”, which reflects sign (magnitude) of $\frac{d\Delta}{d\varepsilon^*}$
- ▶ depends on how individual and social motives interact

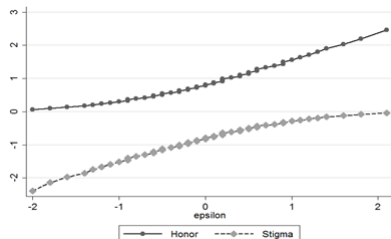
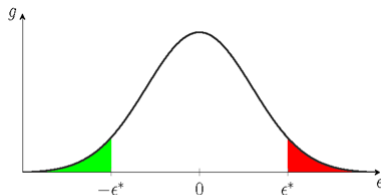
Crowding in or crowding out?

$$\frac{dG(\varepsilon_H^*)}{db} = g(\varepsilon_H^*) \frac{1}{1 + \mu \frac{d\Delta}{d\varepsilon^*}}$$

Recall gain in social reputation (change in expected type)

$$\Delta(\varepsilon_H^*) = \underbrace{E(\varepsilon \mid \varepsilon > \varepsilon_H^*)}_{\text{honor}} - \underbrace{E(\varepsilon \mid \varepsilon < \varepsilon_H^*)}_{\text{stigma}} > 0$$

- ▶ single peak of $g \Rightarrow \Delta$ has unique interior minimum
- ▶ few (many) minority kids imply negative (positive) $\frac{d\Delta}{d\varepsilon^*}$



Minority-Han mixed couples

Preferences and analysis are analogous

$$u = v + mb - (1 - m)(e(M) + \varepsilon) + \mu E(\varepsilon | m)$$

- ▶ $e(M) + \varepsilon$ now reflect the intrinsic cost of Han child
- ▶ substantially, assume that weight μ and distribution $G(\varepsilon)$ are the same as for Han-Minority couples
- ▶ mixed couple has minority child when

$$\varepsilon > -b - e(M) - \mu\Delta(\varepsilon^*) = \varepsilon_M^* < 0$$

- ▶ probability of seeing a minority child is $1 - G(\varepsilon_M^*)$

Consistency with facts **F1** and **F2**

Conditions for minority children

$$HM : \quad \varepsilon < b - e(H) - \mu\Delta(\varepsilon_H^*) = \varepsilon_H^*$$

$$MH : \quad \varepsilon > -b - e(M) - \mu\Delta(\varepsilon_M^*) = \varepsilon_M^*$$

- ▶ **F1**: larger probability among MH couples if $1 - G(\varepsilon_M^*) > G(\varepsilon_H^*)$ – sufficient condition, any negative skew of G not too large: intuitively, MH couples have both intrinsic and material benefits of minority children
- ▶ **F2**: rising probability among HM couples follows because

$$\frac{dG(\varepsilon_H^*)}{db} = g(\varepsilon_H^*) \frac{1}{1 + \mu \frac{d\Delta(\varepsilon_H^*)}{d\varepsilon_H^*}} > 0$$

and rise in b after 1980 (see below)

little response among MH couples because of small density and small multiplier.

Prediction 1

Central prediction on interaction of individual and social motives

$$\frac{dG(\varepsilon_H^*)}{db} = g(\varepsilon_H^*) \frac{1}{1 + \mu \frac{d\Delta(\varepsilon_H^*)}{d\varepsilon^*}}$$

- ▶ we know $\frac{d\Delta(\varepsilon_H^*)}{d\varepsilon^*}$ negative for low values of ε^* and positive for high values of ε^*
- ▶ predict heterogeneous effect of the same shift in b
- ▶ compare two peer groups with ε_{50-n}^* and ε_{50+n}^*
- ▶ $g(\varepsilon_{50-n}^*) \geq g(\varepsilon_{50+n}^*)$ if G positive or no skew (as earlier)
- ▶ can repeat for all n – in each case, effect smaller for $+n$, as social multiplier *and* density smaller

P1: *Consider peer groups of Han-minority families who face the same increase in minority benefits within a province. Then, the effect on the share of minority children should be larger in peer groups with an existing share of minority children below a cutoff, compared to peer groups above that cutoff.*

Prediction 2

Interaction of material benefits (b) and intrinsic costs (e)

$$\frac{d^2 G(\varepsilon_H^*)}{dbde(H)} = \left(\frac{dg}{d\varepsilon_H^*} - \frac{\mu \frac{d^2 \Delta}{d\varepsilon^{*2}}}{1 + \mu \frac{d\Delta(\varepsilon_H^*)}{d\varepsilon^*}} \right) \frac{1}{1 + \mu \frac{d\Delta(\varepsilon_H^*)}{d\varepsilon^*}} \cdot \frac{\partial \varepsilon_H^*}{\partial e(H)}$$

- ▶ we know $\frac{\partial \varepsilon_H^*}{\partial e(H)} < 0$
- ▶ as $\frac{d^2 \Delta}{d\varepsilon^{*2}} > 0$ and $\text{sgn}\left(\frac{dg}{d\varepsilon_H^*}\right)$ positive (negative) below (above) single peak of G , we get another (more demanding) sanity check of model

P2: *When intrinsic costs are high material benefits have a smaller effect on the probability of minority children (following mother's ethnicity), if the share of minority children in the peer group is small.*

2. Data and Test of Prediction **P1**

Data sources

- ▶ 1% samples of 1982, 1990 and 2000 censuses
- ▶ 10% sample of the 2005 population survey (mini-census)

Information on around 250,000 children in mixed marriages

- ▶ outcomes (minority child or not): individual level
- ▶ incentives (b and $e(H)$): region/group/individual level
- ▶ information about prospective peer groups: individual level

Test P1: Measurement

Material benefits (b) of what type?

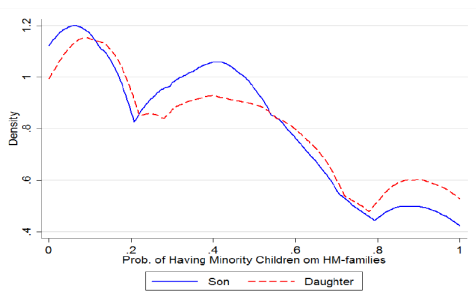
- ▶ appear in a bundle of policies: family planning, entrance to college, (employment)
- ▶ (i) **one-child policy rollout**
 - ▶ timing of family planning org. across provinces 1976-84 (Edlund et al. 2013)
- ▶ (ii) fines for violating one-child policy (Ebenstein 2010)
- ▶ (iii) timing: pre- and post-1980

Social motives (ε_H^*) in which peer group?

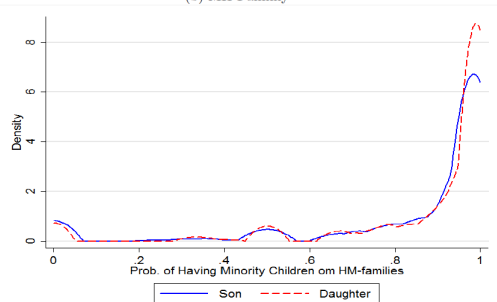
- ▶ need to avoid the reflection problem (Manski, 1993)
- ▶ (i) **the 5-year cohort of 1970-1974 in the same prefecture**
- ▶ (ii) further, residence, education, wife ethnicity
- ▶ (iii) dynamic extension: previous 5-year cohort in the same prefecture

Wide variation in HM-families I

(a) HM-Families



(b) MH-Family



Wide variation in HM-families II



Province FEs explains 35% of the variations across prefectures.

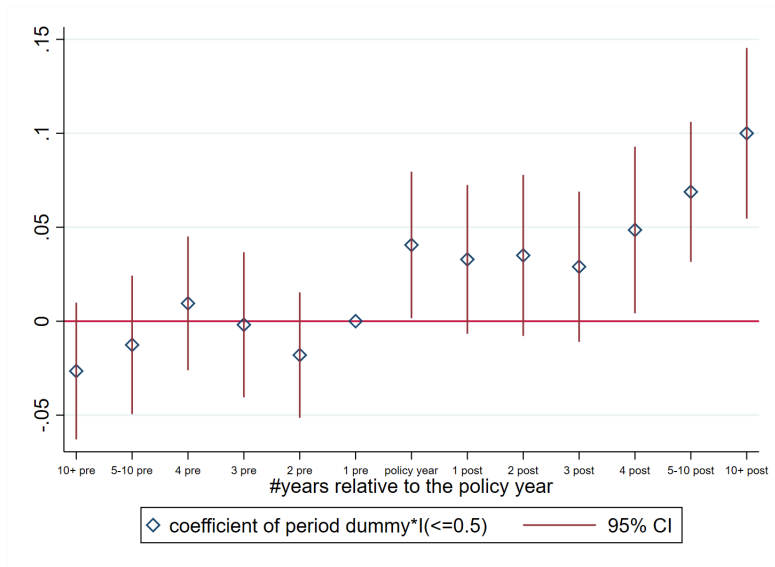
Test P1: Results in Table 2

The social multiplier indeed higher with fewer minority kids, large interaction effect suggests crowding in (out) at low (high) shares

$$CME_{i,p,t} = \beta_b I(\leq V)_p \times b_{r,t} + b_{r,t} + birthyear_t + pref_p + ethn_g + \gamma \mathbf{X}_{i,p} + \gamma' \mathbf{X}_{i,p} \times b_{r,t} + prov_r \times year_t + \varepsilon_{i,p,t}, (1)$$

	(1)	(2)	(3)	(4)	(5)	(6)
I(≤ 0.5) \times b(Post Policy)		0.072*** (0.019) [0.030]	0.069*** (0.019) [0.031]	0.071*** (0.020) [0.031]	0.074*** (0.022) [0.027]	0.070*** (0.014) [0.024]
b(Post Policy)	0.078*** (0.011) [0.019]	0.031** (0.014) [0.014]	0.035** (0.013) [0.013]			
Prefecture FE	Y	Y	Y	Y	Y	Y
Wife Ethnicity FE			Y	Y	Y	Y
Birth Year FE				Y	Y	Y
Controls*b					Y	Y
Province FE*Year FE						Y
Observations	121,908	121,908	121,908	121,908	108,914	108,914
R-squared	0.276	0.277	0.290	0.292	0.299	0.334

Test P1: Dynamic Results



No pre-trends.

Other checks for P1

1. different cutoffs
2. Same pattern for narrower peer groups
 - ▶ peer groups by *residence* – man's Hukou rural or urban (only after 2000)
 - ▶ peer groups by *education* – man has at least high school, or not
 - ▶ peer groups for *each ethnicity* of woman
3. Define benefits by fines for one-child policy (in post-1980 period)
4. take possible measurement error from migration into account (drop data if birth and residence county do not agree, and after 2000 census)

3. Test P2: Intrinsic cost \times b

Intrinsic costs ($e(H)$) of what type?

- ▶ son versus daughter
- ▶ wife from religious minority

	(1)	(2)	(3)	(4)	(5)	(6)
b(Post Policy) \times Son	-0.017*** (0.005)	-0.008 (0.005)				
b(Extra Fertility) \times Son			-0.006*** (0.002)	-0.005* (0.003)		
b(Extra Score) \times Son					0.000 (0.003)	0.003 (0.003)
Son	-0.000 (0.004)	-0.009** (0.004)	-0.009*** (0.003)	-0.013*** (0.003)	-0.011*** (0.003)	-0.014*** (0.003)
b	0.087*** (0.011)	-0.099 (0.075)	0.037*** (0.005)	0.015 (0.034)	0.043*** (0.007)	-0.148*** (0.041)

3. Test P2: Intrinsic cost \times b

Intrinsic costs ($e(H)$) of what type?

- ▶ son versus daughter
- ▶ wife from religious minority

	(1)	(2)	(3)	(4)	(5)	(6)
b(Post Policy) \times Religious Wife	-0.045*** (0.015)	-0.026** (0.013)				
b(Extra Fertility) \times Relig. Wife			-0.026*** (0.006)	-0.017*** (0.006)		
b(Extra Score) \times Relig. Wife					-0.036*** (0.011)	-0.061*** (0.010)
Religious Wife	0.203 (0.206)	0.125 (0.284)	0.064*** (0.013)	0.122 (0.277)	0.053*** (0.013)	-0.026 (0.214)
b	-0.006 (0.013)	-0.114 (0.073)	0.042*** (0.009)	-0.013 (0.033)	0.046*** (0.007)	-0.175*** (0.038)
Prefecture FE	Y	Y	Y	Y	Y	Y
Wife Ethn. FE		Y		Y		Y
Birth Year FE		Y		Y		Y
Controls*b		Y		Y		Y
Province FE*Year FE		Y		Y		Y

4. Alternative Explanations

1. Bargaining Power

- ▶ a simple model → to explain the pattern, bargaining power has to increase more for the prefectures below the cutoff
- ▶ no such evidence (proxied by age gap, education gap and sex ratios)

2. Specification of Social Interaction

- ▶ we model reputation as expected type.
- ▶ would shares work? → different predictions

3. Endogenous Mixed Marriage

- ▶ sub-sample of those married before the policy → similar pattern
- ▶ robust to controlling for share of mixed marriages

4. Censoring

- ▶ robust to focusing on a smaller range, e.g. 0.3-0.7.

5. Composition Effect

- ▶ maybe those always choose minority have more kids after the policy.
- ▶ Similar pattern for couples with a single child and those with multiple children.

5. Final Remarks

Our model

- ▶ highlights the interaction of material and social motives without hardwiring results into the assumptions – attraction of Benabou-Tirole (2011)
- ▶ is constructed to be consistent with facts **F1-F2** for China
- ▶ generates new predictions **P1-P2**

Our empirical analysis

- ▶ supports main prediction: social motives crowd in individual motives in some peer groups, crowd them out in others

Questions for further research

- ▶ small picture: who end up in mixed marriages in first place?
- ▶ big picture: do individual and social motives interact in other economic, social, and political decisions?