

Love and Money by Parental Match-Making: Evidence from Chinese Couples

**Fali Huang
Ginger Jin
L. Colin Xu**

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Motivation

- Marriage goes beyond a relationship between the couple
 - Elderly support, child care, extended family
- Parental matchmaking has been prevalent in China, India and other developing countries.
 - In the past: parental assignment
 - Now: parental introduction + child consent
- Among 8000 Chinese couples surveyed in 1991 across 7 provinces:
 - 58% in rural and 19% in urban were married by parental matchmaking. (Rest: self search)

Research Questions

- What drives the usage of parental matchmaking?
- How does parental matchmaking affect emotional and economic outcomes of a marriage?
- Our approach: To what extent does agency cost play a role in the above two questions?
 - Theory with agency cost
 - Use real data to test theoretical predictions

Preview of the Model

- The emotional dimension of marriage outcome is lower for parental matches than for self-matches
 - Love is shared privately within the couple.
- Joint couple income may be higher or lower in parental matches
 - Parents put more emphasis on money than on love
 - Despite the agency cost, parental match is still optimal to the child if his/her own search cost is too high
- Two types of selections:
 - Adverse selection on the child's side (child has low education, high search cost)
 - Positive selection on the parent's side (parent has high education, low search cost)

Preview of empirical findings

- Parental matchmaking has a negative effect on marital harmony in both urban and rural areas.
- Its effect on joint couple income is negative for rural couples but positive for urban couples.
- These findings are robust to changes in control variables and IV and alternative measures.
- On average for the full sample, positive selection of parents dominates adverse selection of children

Contribution to the literature

- The typical view is that marriage formation is similar to labor market matching
 - Ignore the roles of parents in this process.
- Our model differs from a typical principal-agent relationship:
 - A typical P-A relationship (say between house owner and real estate agent) is short-term
 - Here parents (the agent) have a long-term relationship with the principal (the child), and parents are altruistic
 - New type of distortion: income at the expense of love.
- Existing studies of marriage outcomes focus on the effects of sex ratio (Angrist 2002), divorce law (Chiappori 2002), but no studies on the effects of parental matchmaking.

Theoretical setup

- Finding a wife: self search, parents matching.
- Marriage outputs:
- $f(h_f, h_m)$ = monetary output of the couple.
- Male's gain from marriage:

$$(\beta + \alpha) f(h_f, h_m),$$

α is “love” or “match quality”.

- Parents' gains from marriage:

$$\gamma f(h_f, h_m) + \delta (\beta + \alpha) f(h_f, h_m)$$

Search costs

- To search by himself, the son bears the search costs:

$$\eta_m c(\alpha, h_f, h_m) > 0,$$

$$\eta_m, c_1, c_2 > 0, c_3 < 0, \text{ and } c_{31}, c_{32} < 0$$

- If search by parents, parents bear the search costs:

$$\eta_p s(\alpha, h_f, h_m) > 0,$$

$$\eta_p, s_1, s_2 > 0, s_3 < 0, \text{ and } s_{31}, s_{32} < 0$$

- match quality α is couple-idiosyncratic,
 - assume parents' marginal cost with respect to α cannot be too low compared with the son's: $\eta_p s_1 \geq \delta \eta_m c_1$

optimal search method

- If self search, the son's objective function is

$$U^* = \max_{\alpha, h_f} (\beta + \alpha) f(h_f, h_m) - \eta_m c(\alpha, h_f, h_m) \rightarrow \alpha^*, h_f^*$$

- If parental search, their objective function is:

$$U^\wedge = \max_{\alpha, h_f} [\gamma + \delta (\beta + \alpha)] f(h_f, h_m) - \eta_p s(\alpha, h_f, h_m) \rightarrow \alpha^{**}, h_f^{**}$$

- Son: self search if $U^* \geq U^{**}$ where

$$U^{**} = (\beta + \alpha^{**}) f(h_f^{**}, h_m)$$

Model predictions

- The emotional output and the overall match quality are lower under parental matchmaking.
 - $\alpha^* f(h_f^*, h_m) \geq \alpha^{**} f(h_f^{**}, h_m)$
 - $(\beta + \alpha^*) f(h_f^*, h_m) \geq (\beta + \alpha^{**}) f(h_f^{**}, h_m)$
 - This is agency cost
- But joint couple income under self search $f(h_f^*, h_m)$ could be lower or higher than parental match $f(h_f^{**}, h_m)$.
 - Lower harmony and lower couple income, but still choose parent match: as long as net income under parent match is higher than net income under self search (i.e., income – search costs).
 - More likely where search costs are higher, such as in the countryside.

Empirical implications

- Parental matches:
 - Negative effects on “love”.
 - Ambiguous effects on joint couple income.
- Parental matchmaking may be endogenous if we cannot observe all the individual attributes of parents and children.
 - Parental matchmaking may occur if
 - son is incompetent (handicap, no social skills, unpleasant personality)
 - parents are highly competent (large social circles, better knowledge of marriage market)
- A potential IV for parental matchmaking:
 - the tradition of parent involvement in the local marriage market.

Data

- Study of the Status of Contemporary Chinese Women
 - Collected by the Population Institute of Chinese Academy of Social Science and the Population Council of the United Nations in 1991.
 - Stratified random sampling
 - From 7 regions: Shanghai, Guangdong, Sichuan, Jilin, Shandong, Shanxi, and Ningxia.
- Key features:
 - Migrations were very limited by 1991 → each region can be viewed as separate a marriage market.
 - The urban-rural divide was big: separate marriage market
 - Divorce rate is very low
 - China: 0.42 per 1000 in 1982, 0.71 in 1990, 0.87 in 1995
 - Other countries in 1995: 4.44 in US, 1.59 in Japan; 1.57 in Taiwan

Key Variables

- Matchmaking method:
 - “how did you meet your spouse initially?” (husband and wife answer separately)
 - Introduced by parents or relatives (35.2%).
 - By friends (36.6%),
 - By themselves (27.3%).
 - Other means: 0.8%.
 - Parental matchmaking if matched by parents or relatives on either side (40%)
- Economic output: the joint couple income at the survey time
- The emotional aspect: “how do you usually reconcile with your spouses when you have conflicts?”
 - The harmony index =
 - 2 if “no conflicts” (26%),
 - 1 if “conflicts usually resolved by mutual compromises (49%),
 - 0 if either unilateral compromise or 3rd-party mediation (25%).

Sample

- Exclude if matching method is missing or “other”
 - Other includes marriage ads or “Tong-Yang-Xi”
- Exclude remarried couples
- Exclude if husband and wife responses on “love” are contradictory
 - E.g. “no conflict” vs. “conflict resolved by third party”
- Exclude the top and bottom percentile of age

Table 1. Summary statistics

	Number of Observations	Parental Involvement	Harmony Index	Log Income for Couple
The Whole Sample	17330	.40 (.49)	1.00 (.72)	8.81 (1.23)
By Province:				
Guangdong	2822	.29 (.46)	1.04 (.63)	9.45 (1.32)
Shanghai	2966	.30 (.46)	1.13 (.75)	8.48 (.41)
Sichuan	2334	.34 (.47)	.89 (.71)	8.99 (1.24)
Shandong	2574	.39 (.49)	1.18 (.72)	8.99 (1.20)
Shanxi	2872	.47 (.50)	1.04 (.72)	8.76 (1.38)
Jilin	2192	.50 (.50)	.85 (.72)	8.72 (1.21)
Ningxia	1570	.64 (.48)	.60 (.72)	7.97 (1.21)
By Cohort:				
<30 years old	4227	.41 (.49)	.96 (.72)	8.52 (1.20)
30-40 years old	7172	.38 (.49)	.98 (.71)	8.86 (1.18)
40-50 years	4492	.44 (.49)	1.04 (.71)	8.93 (1.24)
Above 50 years old	1439	.41 (.49)	1.10 (.73)	9.09 (1.40)
By Urban:				
Rural	9502	.58 (.49)	.99 (.71)	7.90 (.68)
Urban	7828	.19 (.39)	1.02 (.73)	9.92 (.76)
Difference		.393*** (.007)	-.039*** (.011)	-.933*** (.018)

Marriage Outcomes by Matchmaking Method

	Harmony Index	Log(couple Income)
All Areas:		
Parental Involvement	.97 (.009)	8.26 (.013)
Self Search	1.03 (.007)	9.19 (.012)
Difference	-.059*** (.011)	-.930*** (.014)
Rural:		
Parental Involvement	.96 (.71)	7.80 (.67)
Self Search	1.02 (.70)	8.03 (.66)
Difference	-.052*** (.015)	-.227*** (.014)
Urban:		
Parental Involvement	.98 (.73)	9.95 (.71)
Self Search	1.03 (.72)	9.91 (.77)
Difference	-.051** (.021)	.037* (.021)

Endogenous Parental Involvement

Individual and Parental Attributes by Matchmaking Method					
Mean (Standard Deviation)					
	Years of Schooling	Age at Marriage	Mother's Schooling	Father's Schooling	Live with Parents after Marriage
Parental Involvement	6.48 (3.90)	22.93 (3.66)	1.40 (2.60)	3.23 (3.49)	.65 (.48)
Self Search	8.93 (3.59)	24.64 (3.53)	2.73 (3.48)	5.00 (3.89)	.46 (.50)
Difference	-2.454*** (.059)	-1.708*** (.056)	-1.341*** (.046)	-1.769*** (.057)	.187*** (.008)

- Individuals with lower human capital or whose parents gain more from the couple tend to rely on parent matching.

IV for parental matchmaking

- Theory: the tradition of parental involvement in a marriage market affects parental search cost (η_p) regardless of individual characteristics
- IV=prevalence of “parental matchmaking” in the earlier cohort (i.e., 3-6 years older and of the same gender) in the same province-urban cell.
- Social learning, social norms, a larger parental network for matchmaking \rightarrow lower η_p \rightarrow parental matchmaking (see Cheung 1972 on parental control rights.)
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First-stage results

	Parental Involvement (linear probability model)	
	Husband	Wife
Tradition of Parental Involvement	.474*** (.068)	.694*** (.059)
Urban	-.150*** (.030)	-.007 (.028)
Years of Schooling	-.014*** (.005)	-.020*** (.004)
Schooling Squared	.001* (.000)	.001** (.000)
Good Health	-.039*** (.012)	-.005 (.010)
Mother Schooling	.003* (.002)	-.001 (.002)
Father Schooling	-.002 (.002)	.003 (.002)
Younger than 35 years old	.002 (.019)	.016 (.017)
Age	.001 (.007)	-.000 (.006)
Age Squared	.000 (.000)	.000 (.000)
Province with Higher Parental Education Levels	-.050*** (.014)	.010 (.014)
Rich Province	-.000 (.011)	-.005 (.011)
Observations	7177	8157

Basic specification

- Common control variables:
 - Age, schooling, health status
 - Political affiliation: 1(communist party member), 1(communist youth league), 1(democratic party member).
 - Religion (Muslim, Christian or catholic, Buddhist)
 - Ethnic (Han, Huei, Korean, Manchurian, others).
 - Ownership of first job: state-owned sector, individual firms, collective firms, JV or foreign firms.
 - Schooling of father and mother
 - Location characteristics: urban, 1(avg S > mean), 1(avg income > mean).
- Do not control for spouse's characteristics: endogenous.

	Husband			
	Marital Harmony		Couple Income	
	OLS	IV	OLS	IV
Parental Involvement	-0.063***(.020)	-0.659** (.260)	-0.071*** (.019)	-0.925* (503)
Urban	-0.063* (.036)	-0.254***(.092)	1.795*** (.039)	1.527*** (.151)
Years of Schooling	-0.015* (.009)	-0.025** (.010)	.065***(.009)	.049***(.012)
Schooling Squared	.001** (.000)	.001*** (.000)	-.002*** (.000)	-.002*** (.001)
Good Health	.039** (.020)	.019(.024)	.169*** (.019)	.140*** (.035)
Mother Schooling	.002 (.004)	.004 (.004)	-.004 (.003)	-.000 (.004)
Father Schooling	-.001 (.003)	-.001 (.004)	.007** (.003)	.005 (.004)
Province w/ Higher Parental Education	-.050** (.024)	-.082*** (.030)	.018 (.022)	-.030 (.037)
Rich Province	.062*** (.019)	.050*** (.024)	.488*** (.018)	.477*** (.075)
Observations	6887	6882	7183	7177
Adjusted R2	.021	-	.721	.636
First Stage Regression Trad'n of Parent match		.522***(.070)		.474***(.068)
F-stat in the first stage		56.34		49.39

***p<1%, **p<5%, *p<10%, standard errors in parentheses.

Sensitivity checks

- Similar results if using “the wife sample”.
- Similar results if control for detailed information on spouse selection criteria and information on an individual’s spouse.

	Husband							
	Fewer Control Variables				More Control Variables			
	Marital Harmony		Couple income		Marital Harmony		Couple income	
Parental Involvement	-.049*** (.018)	-.913*** (.280)	-.086*** (.017)	-1.433*** (.505)	-.055*** (.020)	-.799** (.363)	-.047** (.018)	-1.177* (.610)
Urban	.004 (.020)	-.268*** (.093)	1.902*** (.018)	1.476*** (.145)	-.106*** (.038)	-.272*** (.093)	1.752*** (.041)	1.498*** (.143)
Observations	8051	8046	8462	8456	6887	6882	7183	7177
Adjusted R2	.015	-	.698	.464	.040	-	.738	.592
F-statistic in the First Stage		61.91		64.43		30.36		26.34

Rural vs. urban

	Husband				Wife			
	Marital Harmony		Couple Income		Marital Harmony		Couple Income	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Parental Involvement* Rural	-.070*** (.025)	-.636** (.263)	-.132*** (.024)	-1.385*** (.463)	-.027 (.022)	-.375** (.152)	-.141*** (.021)	-1.337*** (.286)
Parental-Involvement *Urban	-.052 (.033)	-.774* (.454)	.030 (.028)	1.653 (1.018)	-.041 (.031)	-1.209** (.518)	.048* (.027)	3.797*** (1.261)
Urban	-.068* (.038)	-.226* (.121)	1.752*** (.041)	.932*** (.202)	.044 (.032)	.124 (.114)	1.811*** (.032)	.481* (.258)
Observations	6887	6882	7183					

Alternative IV: cruder cohort definition (by 5 year) IV=tradition of cohort i+2

	Husband			
	Marital Harmony		Couple Income	
	OLS	IV	OLS	IV
Parental Involvement	-.063*** (.021)	-.860** (.346)	-.067*** (.019)	-.594 (.713)
Urban	-.064* (.037)	-.315*** (.116)	1.802*** (.040)	1.634*** (.203)
Observations	6381	6369	6657	6643
Adjusted R2	.021	-	.718	.682
First Stage Regression of Parental Involvement				
Tradition of Parental Involvement		.397*** (.069)		.335*** (.067)
F-statistic in the First Stage		33.05		24.98

Alternative IV, rural vs urban

	Marital Harmony		Couple Income	
	OLS	IV	OLS	IV
Parental Involvement* Rural	-.068*** (.026)	-.892** (.445)	-.127*** (.025)	-1.545* (.801)
Parental-Involvement*Urban	-.054 (.035)	-.817** (.356)	.041 (.029)	.677 (.763)
Urban	-.067* (.039)	-.336* (.197)	1.759*** (.041)	1.017*** (.318)
Observations	6381	6369	6657	6643
Adjusted R2	.021	-	.719	.545
F-statistics in the First Stage				
Tradition of Parental Involvement*Rural		16.68		14.24
Tradition of Parental Involvement*Urban		31.95		31.49

Alternative “harmony”

- Similar results with ordered probit
- Similar results with linear probability for 1(have conflicts)

	Dependent Variable = Have Conflicts or not			
	Husband		Wife	
	OLS	IV	OLS	IV
Parental Involvement	-.027** (.012)	-.413** (.164)	-.019** (.010)	-.239** (.099)
Urban	-.027 (.021)	-.149** (.058)	.0560*** (.018)	-.000 (.034)
Observations	7183	7177	8158	8157
R2	.022	-	.032	.

Parental Involvement and Spouse Selection Criteria

Spouse Selection Criteria by Matchmaking Method

Mean (Standard Deviation)

	Character	Temperament	Family Background	Good Look	Education	Occupation	Political Membership
All	.75 (.43)	.41 (.49)	.14 (.34)	.23 (.42)	.11 (.31)	.09 (.28)	.05 (.21)
Parental Involvement	.71 (.46)	.38 (.48)	.19 (.39)	.27 (.44)	.07 (.26)	.07 (.25)	.04 (.18)
Self Search	.79 (.41)	.43 (.50)	.10 (.30)	.20 (.40)	.13 (.33)	.10 (.30)	.06 (.23)
Difference	-.082*** (.007)	-.006*** (.008)	.084*** (.006)	.069*** (.007)	-.054*** (.005)	-.028*** (.004)	-.022*** (.003)

The other control variables include cohort dummies, mother and father's years of schooling, political party membership variables (whether the individual is a communist party member, communist youth league, or a democratic party member), religion (Muslim, Christian or catholic, Buddhist), ethnic (Han, Huei, Korean, Manchurian), whether the province is rich (with above-average income) and has higher-than-average parental education levels.

Regression Results (linear probability model)							
	Character	Temperament	Family Background	Good Look	Education	Occupation	Political Membership
Parental Involvement	-.042*** (.007)	-.051*** (.008)	.028*** (.006)	.006 (.007)	.009* (.005)	-.001 (.005)	-.005 (.003)
Urban	.061*** (.009)	.030*** (.011)	-.101*** (.007)	-.154*** (.009)	.042*** (.006)	.065*** (.007)	.024*** (.005)
Years of Schooling	.001 (.001)	-.002* (.001)	-.005*** (.001)	.001 (.001)	.014*** (.001)	.002** (.001)	.002*** (.001)
Male	.017** (.007)	.061*** (.008)	-.085*** (.005)	.091*** (.007)	-.060*** (.005)	-.038*** (.005)	-.038*** (.004)
Observations	17119	17119	17119	17117	17119	17119	17119
R2	.020	.013	.075	.052	.084	.019	.044

Conclusions

- Examine a new aspect of the marriage market: the matchmaking means
- Theoretically, parental matchmaking distorts the optimal spouse choice decisions: over-emphasis on income, and less attention to “love”.
- The effect of parental matchmaking on “love” is estimated negative in both rural and urban areas.
- The effect of parental matchmaking on couple income is negative in rural but positive in urban.
- Results hold in both OLS and IV.