

# **The Social Rationale for Forced Marriage**

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# Outline

- Background: what does bride kidnapping mean?
- Conceptual framework
- The young man's decision
- The young woman's decision
- The social decision
- Next steps

# Background: bride abduction in Kyrgyzstan

- Anthropologists have extensively studied the practice of bride abduction and find that it disappeared in most countries with the development of modern laws and social norms (Stross 1974; McLaren 2001)
- Historically, Kyrgyz people are traditional nomads with a herding culture. The traditional role of a woman was a housekeeper (Abazov 2004). Nomadic culture resulted in significant female autonomy and empowerment relative to neighboring sedentary populations.
- Under Soviet rule, laws were established in the 1920s that banned forced marriages. Women were generally well-integrated into the labor force and public life. Kyrgyzstan had Central Asia's and indeed the former USSR's first woman president in 2010.

# Background: *Ala kachuu* statistics

- No official data on the number of kidnappings that occur each year: up to a third of all ethnic Kyrgyz women may have married non-consensually kidnapping (Kleinbach 2003). Several sources indicate that approximately 15,000 girls are kidnapped and forced into marriage annually.
- According to a single village survey conducted in 2004, 80 percent of Kyrgyz marriages were the result of *ala kachuu*, and 57 percent of these marriages were non-consensual (Kleinbach *et al.* 2005). They suggest there is an increase over the last 40-50 years.
- According to a 2011-2012 nationally representative survey collected on men and women in Kyrgyzstan, one-third of marriages were the result of kidnappings among Kyrgyz; half of these marriages were of forced nature (Agadjanian and Nedoluzhko 2013). They suggest there is a decline since the collapse of the USSR.
- These last numbers are broadly consistent with LiK 2011 and 2016 survey data. The way in which the question is phrased, the nature of related questions, and the interview process all may affect responses.

# Conceptual Framework (1)

- There is uncertainty and scarce information about potential mates in the marriage market.
- A prospective groom either (1) finds the bride and proposes to her, (2) has the bride “arranged,” or (3) “seizes” the bride.
- **The fundamental logic behind the economic analysis of marriage formation is the following: Both partners compare each other’s characteristics and evaluate their potential gains from forming a union.** If the gains for both partners from marriage are greater than their expected gains from continued search for a potential mate, then they marry (Becker 1973, 1974, 1991).
- In love and arranged marriages, both partners can usually evaluate their potential gains from marriage and give their consent to forming a new family.

# Conceptual Framework (2)

- The search for a suitable mate in a kidnaped marriage is undertaken by the groom, but there is consent only by the male. The groom may collect information about the woman he targets and evaluates his potential gain from marriage to her.
- Once kidnapped, the potential bride lacks choice over her potential groom. She cannot “signal” her interest to the groom with the highest expected gains from marriage. Relative to love and arranged marriages, her expected gains from forming this union are lower in kidnaped marriages. Under normal circumstances, marriage represents a voluntary union between two households, but in this instance, marriage is forced and involuntary.

# Conceptual Framework (3)

- It is socially harmful for the young women who are involved in this physical affair. Once a woman is kidnapped by force, it imposes high psychological, emotional and physical cost for her (*i.e.*; fear, abuse, threats of divorce/beatings).
- She cannot choose the timing of fertility and the number of children. The psychological stress and anxiety during gestation can result in poor pregnancy outcomes. Low birth weight imposes substantial costs on society (Almond *et al.*, 2005; Currie *et al.*, 1999). It is thus an important public health concern.
- Mansour *et al.* (2012) discuss four factors associated with low birth weight: psychological stress, physical exertion, prenatal care and malnutrition. They find positive association between fatalities 9-6 months before birth caused by Israeli security forces and low birth weight. They argue that psychological stress is a plausible mechanism for this relationship.

# Conceptual Framework (4)

- Becker, Mirkasimov, and Steiner (2017) find that birth-weights of children of women who were kidnapped are 100-200 grams lower (3-6% lower) than those of comparable mothers who were not kidnapped.
- They also find that kidnapped women are roughly twice as likely to divorce as non-kidnapped women. This continues to hold when one controls for obvious correlates.
- Steiner and Becker (2017) also find that personality characteristics of couples who marry via *ala kachun* are more dissimilar than those who marry via love or arranged marriages.
- This leads to the question: why does society tolerate a practice that has fairly visible social costs?

# Groom's problem (1): no kidnapping

$$U = U(y, n, q) = u(y) + v(n, q),$$

subject to the budget constraint:

$$I = \pi_y y + \pi n q.$$

(1)

## Groom's problem (2): no kidnapping

- Standard maximization problem. Chooses expenditures on family and non-family goods and services.
- Quality of children and family goods depend on quality of wife (which eventually will be modeled as relating to wedding costs).
- Expensive weddings and other *toi* have reputation value, so costs are offset to degree  $k$ .
- 3-period model used (for reasons explained below)

# Groom's problem (3): no kidnapping

- If marry in period 1:

$$\begin{aligned} \max_{y_1, y_2, y_3, c, q, s_1, s_2} & u(y_1) + \delta[u(y_2) + \beta v(1, qc)] + \delta^2[u(y_3) + \beta v(1, qc)] + k \ln c \\ \text{s.t.} & I = s_1 + c + \pi_y y_1 \\ \text{s.t.} & I + r s_1 = s_2 + \pi_y y_2 + \pi q \\ \text{s.t.} & I + r s_2 = \pi_y y_3 \end{aligned} \tag{3}$$

# Groom's problem (4): no kidnapping

- If work in Russia and marry in period 2, wealth is greater but child-bearing is delayed:

$$\max_{y_1, y_2, y_3, c, q, s_1, s_2} u(y_1) + \delta u(y_2) + \delta^2 [u(y_3) + \beta v(1, qc)] + \delta k \ln c$$

$$s.t. \quad I = s_1 + \pi_y y_1$$

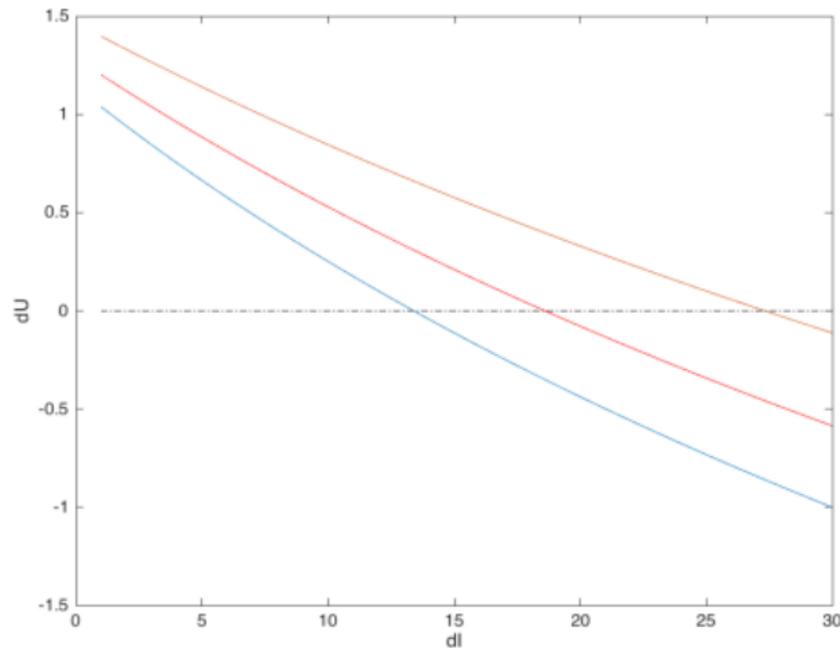
$$s.t. \quad I + \Delta I + r s_1 = s_2 + c + \pi_y y_2$$

$$s.t. \quad I + r s_2 = \pi_y y_3 + \pi q$$

(5)

# Groom's problem (5): no kidnapping

- Income/family utility tradeoff is easy to show mathematically or graphically:



**Figure 1** Difference between utilities of marrying at  $t = 1$  and  $t = 2$

# Groom's problem (6): no kidnapping

- Inter-generational disagreements may arise:

**Proposition 1.** The elder generation will have the incentive to have their son marry earlier than he would prefer if they weigh the utility from having offspring more than the younger generation.

Sketch of the proof. Take the derivative of  $\Delta U_w = U_{marry} - U_{work}$  with respect to  $\beta$ :

$$\frac{\partial \Delta U_w}{\partial \beta} = \frac{\partial U_{marry}}{\partial \beta} - \frac{\partial U_{work}}{\partial \beta} > 0. \quad (8)$$

# Groom's problem with kidnapping (1)

- The setting: formally, we regard bride abduction as a way of marrying a woman of the same quality but at less wedding cost
- Thus, bride kidnapping enables the young man's family to marry a woman who is of value  $c$  (bride value proportionate to wedding cost) at a cost of  $c - \Delta c$ .
- We regard kidnapping discount  $\Delta c$  as a fixed value among the society for
  - Simplicity
  - inter-class bride kidnapping is relatively unlikely. A high “discount value” of  $\Delta c$ , which means the young man plans to kidnap a girl from family that is far richer and powerful than his own family, will make the bride abduction almost impossible to succeed.

## Groom's problem with kidnapping (2)

- The benefit from kidnapping wedding plus *kalym* discount constitutes a smaller portion to the total utility of families that are wealthier.
- This is captured by the fact that  $\Delta c/c$  gets smaller as  $c$  increases. We require  $\Delta c \geq 1$  so that  $\ln \Delta c \geq 0$ .
- Briefly, bride kidnapping seems likely to tarnish a family's reputation rather than to polish it, so that  $\Delta c$  is likely to decline with income and hence wedding expenses; at a minimum, it will rise less rapidly than total wedding costs.

# Groom's problem with kidnapping (3)

- Optimization problem if marry at  $t=1$  is in equation (9). Note that there are now  $4 = 2 \times 2$  decisions: when to get married and how to get married. And, of course, there are two decision-makers: groom and parents.

$$\max_{y_1, y_2, y_3, c, q, s_1, s_2} u(y_1) + \delta[u(y_2) + \beta v(1, qc)] + \delta^2[u(y_3) + \beta v(1, qc)] + k \ln \frac{c}{\Delta c}$$

$$s.t. \quad I = s_1 + c - \Delta c + \pi_y y_1$$

$$s.t. \quad I + r s_1 = s_2 + \pi_y y_2 + \pi q$$

$$s.t. \quad I + r s_2 = \pi_y y_3$$

(9)

# Groom's problem with kidnapping (4)

- Compare utility from kidnapping generated by the maximization problem with that generated without kidnapping. Absent social reputation, kidnapping dominates – though idiosyncratic preferences would change this

$$\begin{aligned}
 U_{kidnap} = & [1 + k + (1 + 2\alpha\beta)(\delta + \delta^2)] \ln y_1^k \\
 & + (\delta + 2\delta^2) \ln r\delta + \alpha\beta(\delta + \delta^2) \left[ \ln \frac{\alpha\beta(\delta + \delta^2)r\pi_y}{\pi} + \ln(\alpha\beta(\delta + \delta^2) + k)\pi_y \right. \\
 & \left. + k \ln[(\alpha\beta(\delta + \delta^2) + k)\pi_y] - k \ln \Delta c \right]
 \end{aligned} \tag{10}$$

where

$$y_1^k = \frac{\left(1 + \frac{1}{r} + \frac{1}{r^2}\right)I + \Delta c}{\pi_y [1 + k + (1 + 2\alpha\beta)(\delta + \delta^2)]}$$

# Groom's problem with kidnapping (6)

While the first term is negative and the second term is positive, implementing a bride kidnapping can be either a wise or a stupid decision from the perspective of the groom and his family. Notice that  $\Delta U_k < 0$  when  $\Delta c = 1$ , which is the minimum possible cost to their reputation. Depending on the derivative, it is possible that either  $\Delta U_k < 0$  holds for all  $\Delta c > 1$ , which means bride kidnapping is always rational; or  $\Delta U_k$  changes non-monotonically with  $\Delta c$ . Consider the derivative

$$\begin{aligned}\frac{\partial \Delta U_k}{\partial \Delta c} &= \frac{k}{\Delta c} - \frac{[1 + k + (1 + 2\alpha\beta)(\delta + \delta^2)]}{\left(1 + \frac{1}{r} + \frac{1}{r^2}\right)I + \Delta c} \\ &= \frac{\left(1 + \frac{1}{r} + \frac{1}{r^2}\right)kI - [1 + (1 + 2\alpha\beta)(\delta + \delta^2)]\Delta c}{\Delta c \left(1 + \frac{1}{r} + \frac{1}{r^2}\right)I + (\Delta c)^2}.\end{aligned}\tag{12}$$

It is equals zero when

$$\Delta c = \Delta c^* = \frac{\left(1 + \frac{1}{r} + \frac{1}{r^2}\right)kI}{1 + (1 + 2\alpha\beta)(\delta + \delta^2)}\tag{13}$$

# Groom's problem with kidnapping (7)

**Lemma 1.** As long as the reputational concern  $k$  is strong enough, there exists a range of  $\Delta c$  in which bride kidnapping is not the rational choice.

Proof. See Appendix A.

Lemma 1 shows that so long as the family's reputational concern is strong enough, for a range of wedding cost discount  $\Delta c$  they will not implement bride kidnapping. Indeed, we have an even stronger result: given family income level  $I$  and wedding cost discount  $\Delta c$ , so long as this reputational concern is strong enough, the family will not abduct a bride.

**Lemma 2.** Given a family's income level  $I$  and socially determined wedding cost discount  $\Delta c$ , there exist  $k$  such that  $\Delta U_k > 0$ .

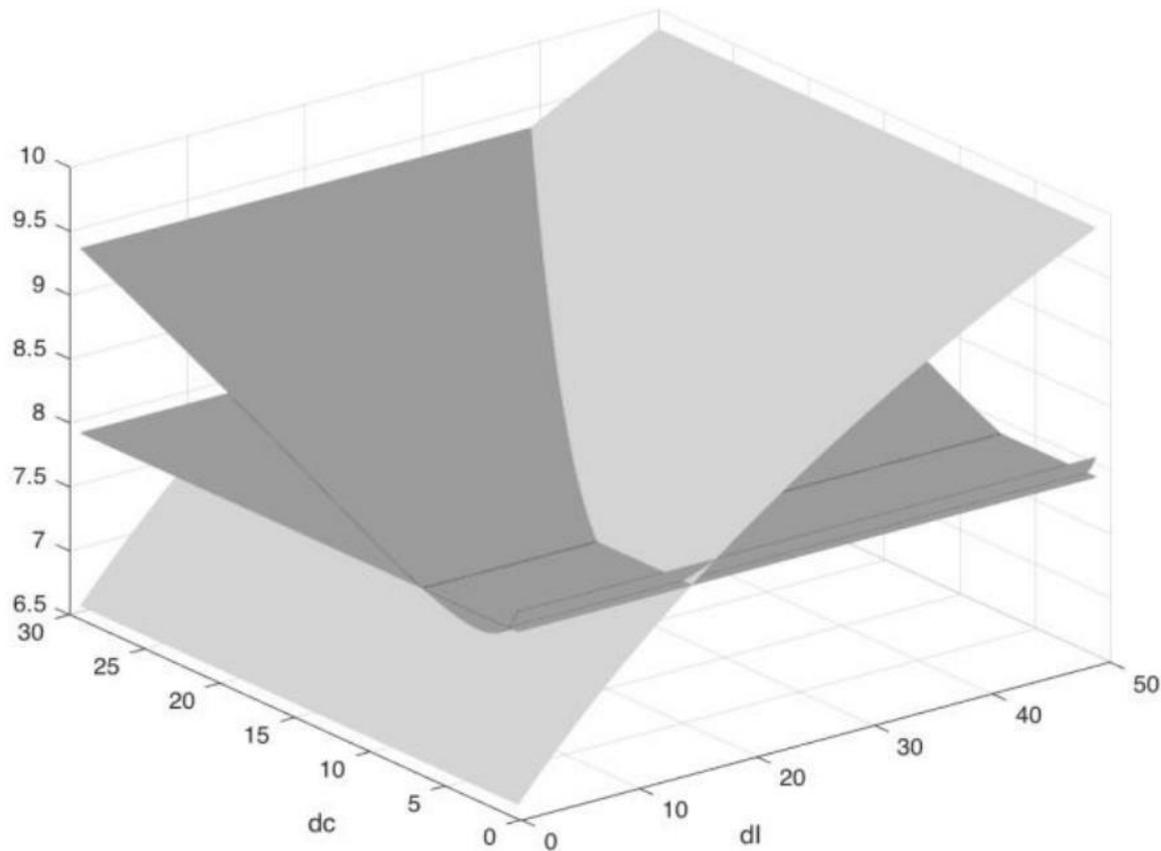
Proof. See Appendix B.

# Groom's problem with kidnapping (7)

**Proposition 2** The groom's family's incentive to implement bride kidnapping is

- (1) Decreasing in the family's level of concern about its social reputation  $k$  and income level  $I$ ;
- (2) Increasing in the amount of wedding cost discount  $\Delta c$ , when  $k < k^*$ ; *i.e.*, if social reputation is not or barely the groom's family's concern. In this case, bride kidnapping will always be beneficial;
- (3) First decreasing then increasing in the amount of reduced wedding cost  $\Delta c$ , when  $k < k^*$ ; *i.e.*, if the family is concerned with its reputation. As long as  $\Delta c$  is large enough, bride kidnapping will be always worthwhile;
- (4) Increasing in its weight on utility from having offspring  $\beta$ .

# Groom's problem with kidnapping (8)



**Figure 4** Three Options ( $k > k^*$ )

# Groom's problem with kidnapping (8)

- In Figure 4, which is the case when  $k > k^*$ , the dark plane is the base case of marrying a bride through a normal channel at  $t = 1$  so it does not vary with  $\Delta c$  and  $\Delta I$ ; the light curved surface represents the decision to marry at  $t = 2$  after working abroad for a period; the dark curved surface is the case of kidnapping a bride for marriage. From this figure, we can find the best strategy in different situations.
- First, conventional marriage without working abroad is the best option if the working opportunity is not that lucrative and bride kidnapping does not lower the wedding cost too much.
- Second, postponing the marriage becomes the best option when working abroad can bring the family enough fortune to marry a better wife.
- Third, bride kidnapping is the optimal choice if working abroad can not only increase the family's income a moderate amount but also lower the wedding cost significantly.
- Finally, if social reputation is not the concern, namely,  $k$  is small enough, then marrying conventionally will never be the best choice.

# Bride's problem with kidnapping (1)

- For simplicity, assume brides and grooms all have identical preferences.
- The bride of value  $\bar{c}$  knows the value of herself, so she could expect that the utility from having her baby is  $v(1, q\bar{c})$ , thus her utility depends only on the value of  $q$  that is determined by the groom's family, which is related to their income level  $I$ .
- Given that the bride knows the decision problem of the groom, she can thus infer the groom's family's income level  $I$  from the amount of *kalym* she receives and then infer the value of  $q$ , depending on the channel through which she gets married. If the groom marries her through the normal channel, we find:

$$q_m = \frac{\alpha\beta(\delta + \delta^2)r}{\pi[\alpha\beta(\delta + \delta^2) + k]} c_m. \quad (22)$$

## Bride's problem with kidnapping (2)

Similarly, if someone has worked abroad before proposing to her, his family will invest on the child's quality with

$$q_w = \frac{\alpha\beta\delta^2}{\pi[k\delta + \alpha\beta\delta^2]} c_w. \quad (23)$$

In these two cases, we have  $c_m = c_w = \bar{c}$ . If she is kidnapped, however, she knows that the groom who kidnaps her who is of value  $\bar{c}$  will only pay a *kaahym* of  $c_k = \bar{c} - \Delta c$ , so that

$$q_k = \frac{\alpha\beta(\delta + \delta^2)r}{\pi[\alpha\beta(\delta + \delta^2) + k]} c_k = \frac{\alpha\beta(\delta + \delta^2)r}{\pi[\alpha\beta(\delta + \delta^2) + k]} (\bar{c} - \Delta c). \quad (24)$$

# Bride's problem with kidnapping (3)

**Lemma 3** If a woman is proposed simultaneously by a man who wants to get married at his  $t = 1$  and a man who has worked for years and wants to get married at his  $t = 2$ , she will accept the former's proposal.

Proof. Notice that

$$\frac{q_m}{q_w} = (1 + \delta)r \cdot \frac{\alpha\beta\delta + k}{\alpha\beta(\delta + \delta^2) + k}.$$

The fraction is increasing in  $k$  and its minimum is  $\frac{1}{1+\delta}$  when  $k = 0$ . Therefore,  $\frac{q_m}{q_w} > (1 + \delta)r \cdot \frac{1}{1+\delta} = r \geq 1$ . So  $q_m > q_w$  always holds.

Hence, if there are three types of grooms hoping to marry the same woman, the bride will accept wedding proposal in the order of *kidnap* > *marry* > *work*. Meanwhile, we assume that  $\Delta c$  is large enough so that  $q_k < q_w < q_m$ . We now consider the bride's family's problem of whether exposing her to the risk of being kidnapped. If they choose not to be exposed to the risk, there would be five different situations:

# Bride's problem with kidnapping (4)

**Table 1** Situations when the bride does not expose herself to the risk of being kidnapped

Case	Situation	Probability
N1	Getting married to a man at his $t = 1$ at woman's $t = 1$	$p_m$
N2	Getting married to a man at his $t = 2$ at woman's $t = 1$	$(1 - p_m)p_w$
N3	Getting married to a man at his $t = 1$ at woman's $t = 2$	$(1 - p_m)(1 - p_w)p_m$
N4	Getting married to a man at his $t = 2$ at woman's $t = 2$	$(1 - p_m)^2(1 - p_w)p_w$
N5	Not getting married	$(1 - p_m)^2(1 - p_w)^2$

\*'N' stands for 'Not exposed (to the risk of being kidnapped)'

# Bride's problem with kidnapping (5)

**Table 2** Situations when the bride exposes herself to the risk of being kidnapped

Case	Situation	Probability
E1	Being kidnapped at $t = 1$	$p_k$
E2	Getting married to a man at his $t = 1$ at $t = 1$	$(1 - p_k)p_m$
E3	Getting married to a man at his $t = 2$ at $t = 1$	$(1 - p_k)(1 - p_m)p_w$
E4	Being kidnapped at $t = 2$	$(1 - p_k)(1 - p_m)(1 - p_w)p_k$
E5	Getting married to a man at his $t = 1$ at $t = 2$	$(1 - p_k)^2(1 - p_m)(1 - p_w)p_m$
E6	Getting married to a man at his $t = 2$ at $t = 2$	$(1 - p_k)^2(1 - p_m)^2(1 - p_w)p_w$
E7	Not getting married	$(1 - p_k)^2(1 - p_m)^2(1 - p_w)^2$

\*'E' stands for 'Exposed (to the risk of being kidnapped)'

# Bride's problem with kidnapping (6)

**Lemma 4** The bride cares less about the risk of being kidnapped as her “value” as denoted by  $\bar{c}$  ↑ meanwhile, she is more afraid of being kidnapped as  $\Delta c$  increases.

Proof. Denote  $\Delta EU = EU_{NE} - EU_E$ . We have

$$\frac{\partial EU_{NE}}{\partial c} = \alpha\beta(\delta + \delta^2)\frac{2}{c} \cdot p_m + \alpha\beta\delta^2\frac{2}{c} \cdot p_m(1 - p_m),$$

$$\frac{\partial EU_E}{\partial c} = \alpha\beta(\delta + \delta^2)\left(\frac{1}{c} + \frac{1}{c - \Delta c}\right) \cdot [p_k + (1 - p_k)p_m]$$

$$+ \alpha\beta\delta^2\left(\frac{1}{c} + \frac{1}{c - \Delta c}\right) \cdot [(1 - p_k)(1 - p_m)p_k + (1 - p_k)^2(1 - p_m)p_m].$$

Since

$$\frac{2}{c} < \frac{1}{c} + \frac{1}{c - \Delta c},$$

$$p_m < p_k + (1 - p_k)p_m$$

$$p_m(1 - p_m) < [(1 - p_k)(1 - p_m)p_k + (1 - p_k)^2(1 - p_m)p_m],$$

then

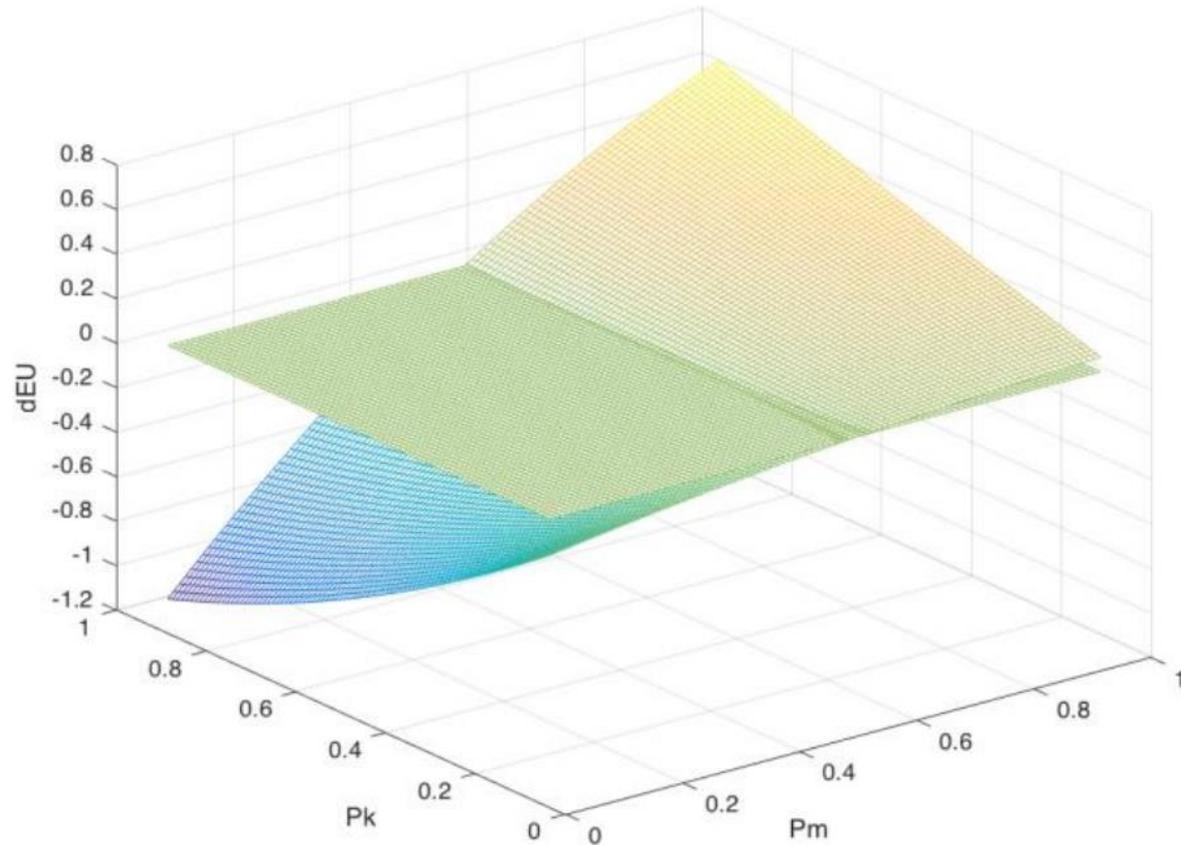
$$\frac{\partial \Delta EU}{\partial c} = \frac{\partial EU_{NE}}{\partial c} - \frac{\partial EU_E}{\partial c} < 0.$$

This proves our first conclusion. It is easy to see that

$$\frac{\partial \Delta EU}{\partial \Delta c} = -\frac{\partial EU_E}{\partial \Delta c} > 0,$$

then proves the second argument.

# Bride's problem with kidnapping (7)



**Figure 8** Decision of young woman's exposure to the risk of being kidnapped

# Bride's problem with kidnapping (8)

- In Figure 8, the curved plane represents the value of  $\Delta EU$ .
- The curved plane above the base plane means it is not worth-while to expose oneself the risk of being kidnapped and vice-versa.
- So long as the probability of a conventional marriage is high enough, exposure to the risk of being kidnapped will never be the right choice.
- However, if the probability of normal marriage is relatively low, exposure to risk tends to yield a higher expected utility by improving the chance of entering a marriage.
- This point helps to explain why bride kidnapping is common among relative dispersed Kyrgyz populations but is nonexistent in more densely populated neighboring Uzbek and Tajik ethnic groups.
- Conservative social attitudes toward pre-marital dating that discourages interaction between young man and woman also contributes to the low probability of a conventional marriage, thus also contributing to making bride kidnapping an attractive option for both prospective grooms and brides.

# Inter-generational conflict (1)

- Just as the parents of young men may view marriage as more urgent than prospective grooms themselves, the parents of young women also may yearn for grandchildren. However, there is a difference: the groom's parents (and, in particular, his mother) will gain an extra worker in the event that newlyweds live with them, and therefore will be especially eager to encourage early marriage.
- This difference in generational interests explains the social rationale for *ala kachuu*.
- Permitting kidnapping makes young women more likely to accept offers of marriage from men they would not accept in the absence of kidnapping risk.

## Inter-generational conflict (2)

- Permitting kidnapping also makes young men more likely to search for brides or accept an arranged marriage in which they have at least some input, since failure to search may result in being compelled to kidnap randomly (and sub-optimally).
- Allowing *ala kachuu* thus promotes more spousal search and earlier marriage – important in a society where search costs are high.
- Also note that allowing kidnapping results in lower quality of all kinds of marriages, including love and arranged.
- Thus, we would expect less spousal homogeneity and life satisfaction among Kyrgyz than similar non-Kyrgyz populations.

# Next steps (1)

- The model presented represents a partial equilibrium. It describes rational behavior for the families of young men and women, and older and younger generations, and shows that
  - (a) men may rationally kidnap,
  - (b) women may rationally expose themselves to kidnapping risk, and
  - (c) society may allow kidnapping to accelerate the marriage process – and acceleration is desirable from the perspective of the older generation that controls social norms.

## Next steps (2)

- Kidnapping is strategically bad for women and their families if it happens:
  - women have worse choices of husband,
  - families get lower kalym,
  - women's social status is at least temporarily reduced.
- Empirical evidence below: women should prefer not to be kidnapped:
  - increased risk of divorce,
  - less compatible husbands,
  - lower birthweight of children
- But the practice virtually ensures marriage will occur, and exposure also improves non-kidnapping search. It is also possible that expected losses are relatively low.

## Next steps (3)

- The next step is to endogenize key cost parameters  $k$ ,  $c$ , and  $\Delta c$ .
- Whether they or the different marriage probabilities  $p$  respond to different gender distributions of marriage-age populations.
- Our (not-yet-proven) hunch: extreme gender imbalance will make kidnapping unlikely, at least if  $c$  adjusts. In that case, an excess of prospective brides will make kidnapping unnecessary for grooms; an excess of young men will make exposure risk and cost too high for young women.