

# Cultural Institutions and Structural Change: Dowries as Pensions When Sons Migrate

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## Structural Change & Old Age Support

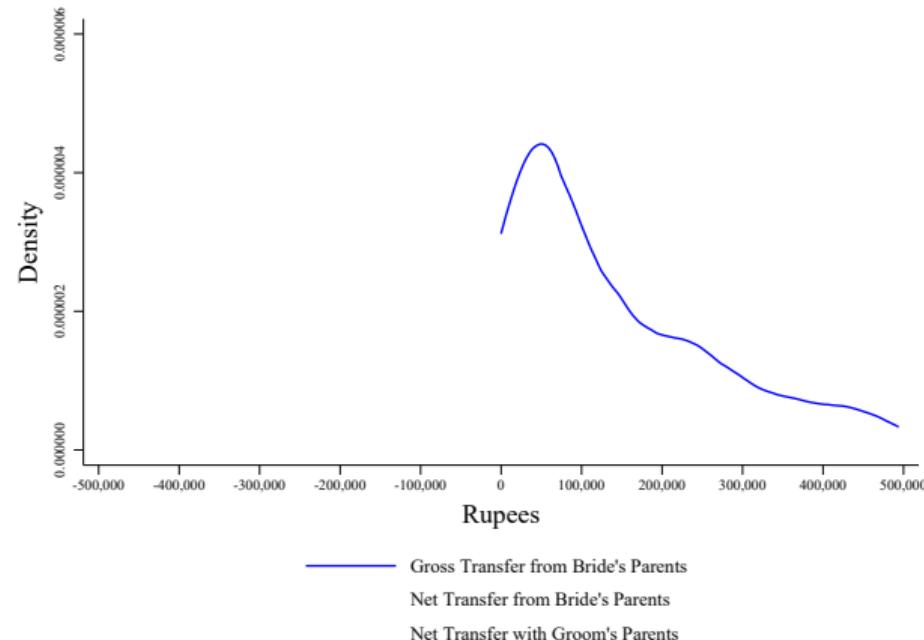
- Traditionally, children reside nearby parents and support them in old age (Leibenstein, 1957; Caldwell, 1978, 1982).
- As countries develop, returns to migration grow and patrilocality declines, weakening traditional old age support.
- Yet, lower-income countries still have limited social safety nets. This may create a friction in efficient migration decisions.
- Could dowry help fill this gap, providing parents of non patrilocal grooms a source of old age support, and enabling migration?

## Role of Dowry

- Dowry: bride's "endowment" in anthropological work and some econ theory (Goody and Tambiah 1975, Botticini and Siow 2003).
- Others suggest it's a transfer to clear the marriage market (Becker, 1991, Anderson and Bidner, 2015). Anecdotes suggests much of dowry is captured by groom's parents, but little data.
- Despite ban, tradition has persisted and prevalence has *increased* (Chiplunkar and Weaver, 2021).
- We collect data for the first time on not just dowry giving, but dowry *taking*, allowing us to demonstrate its empirical complexity

# Original Survey Data on Dowry *Taking*

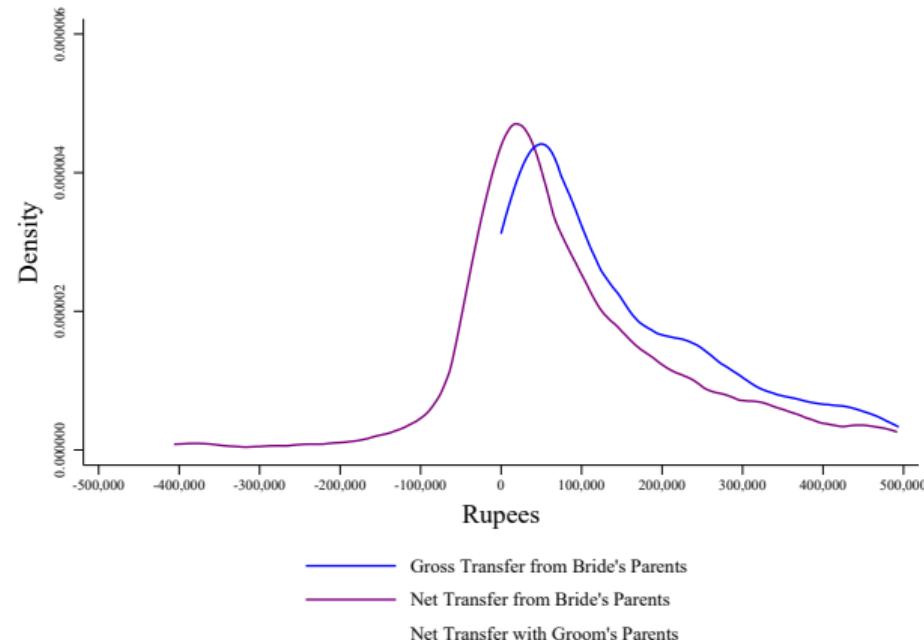
We can observe gross dowry, net dowry, and net dowry taken by grooms' parents



Data Source: Destination Survey

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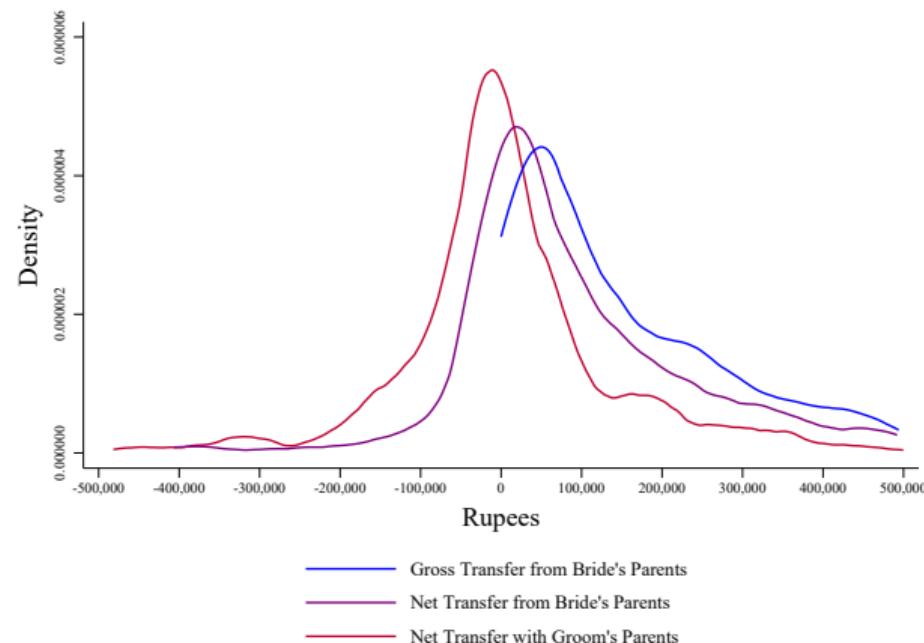
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## This Paper

- Develop new **model** of migration & dowry where sons support parents in old age.
  - Intergenerational reciprocity issue in migration.
  - Dowry, as a pool of liquid assets, can alleviate it.
- Predictions
  - Parents receive more of the dowry when sons migrate, increasing in son's income.
  - **Dowry traditions promote migration.**
  - When migration costs fall, migration increases more with stronger dowry traditions. Education may increase as well.
- Test predictions using:
  - **Newly-collected data** on property rights over dowry payments.
  - Cross-district variation in the strength of ancestral dowry traditions.
  - **Natural experiment:** large-scale road construction program, Golden Quadrilateral.

## Related literature

- Intergenerational reciprocity.  
Bau (2021), Jensen and Miller (2017), Banerjee (2004), Becker (1974, 1981).
- Economics of migration in developing countries.
  - Psychosocial barriers to migration.  
Bryan et al. (2021), Munshi and Rosenzweig (2016), Bryan et al. (2014), Kennan and Walker (2011).
  - Effects of infrastructure on migration.  
Asher and Novosad (2020), Morten and Oliveira (2020), Ghani et al. (2016), Jacoby (2000).
- Marriage payments, and especially dowry.  
Calvi and Keskar (2021), Chiplunkar and Weaver (2020), Bhalotra et al. (2020) , Ashraf et al. (2020), Corno et al. (2020), Anderson and Bidner (2015), Arunachalam and Logan (2006), Anderson (2007), Botticini and Siow (2003), Bloch and Rao (2002).
- Contemporary role of cultural institutions.  
Lowes (2020), Giuliano and Nunn (2018), Jayachandran and Pande (2017), Alesina et al. (2013).

# Outline

Intro and Stylized Facts

Theoretical Framework

Dowry Ownership Results

Migration Shock Results

Conclusion

# A Collective Inter-generational Household Model with Migration

- Collective household with Pareto weight  $\theta$  on parents and  $1 - \theta$  on sons
- Parents have income  $y_P$  and sons have income  $y_K$
- Sons marry and receive marriage transfer  $E$  (assortative matching)
- If sons migrate, they receive net return  $R$  (benefit minus cost)

## Household Problem: First Best

The household chooses migration decision and consumption levels to solve:

$$\max_{\substack{c_p, c_k, \\ m \in \{0,1\}}} \theta \ln(c_p) + (1 - \theta) \ln(c_k)$$

$$\text{s.t. } c_p + c_k \leq y_p + y_k + E + Rm \equiv Y + Rm$$

Household will choose:

$$c_p = \theta(Y + Rm)$$

$$c_k = (1 - \theta)(Y + Rm)$$

$$m = 1 \text{ if } R > 0$$

## Second Best: Restricted Transfer Instruments

Parents and sons have two instruments to optimize according to Pareto weights:

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  - Assume for now migration  $\alpha$  restricted to be zero, but predictions only require a cost of remitting.

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  - Migration induces frictions: no shared farm production and consumption, little access to banking.
  - Assume for now migration  $\alpha$  restricted to be zero, but predictions only require a cost of remitting.
2. Endowment transfer: At time of wedding,  $\tau$  can be used to transfer money from parents to sons.
  - Transfer from parents to sons indicated by  $\tau < 0$
  - With dowry, marriage transfer is material, and thus provides liquidity for son to also transfer to parents up to  $E$ .

## Household Problem: Transfer Constraints (No Dowry)

The household chooses migration decision and transfers  $\tau$  and  $\alpha$  to solve:

$$\max_{\substack{\alpha \geq 0, \tau \leq 0, \\ m \in \{0,1\}}} \theta \ln(c_p) + (1 - \theta) \ln(c_k)$$

s.t.  $c_p \leq y_p + \tau + \alpha(1 - m)$

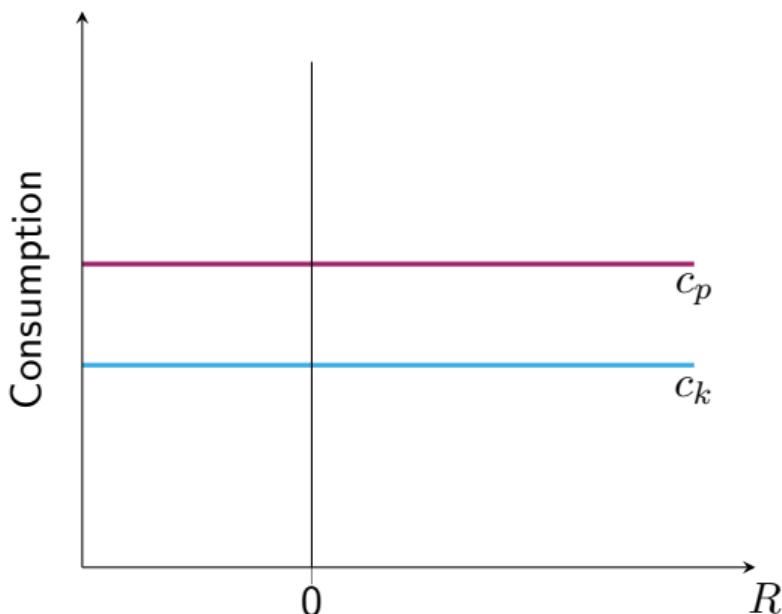
$$c_k \leq y_k + Rm + E - \tau - \alpha(1 - m)$$

- Cannot transfer through  $\alpha$  if sons migrate.
- Thus, whether migration decisions are first-best efficient will depend on whether parents' income alone is larger than their first-best consumption allocation:

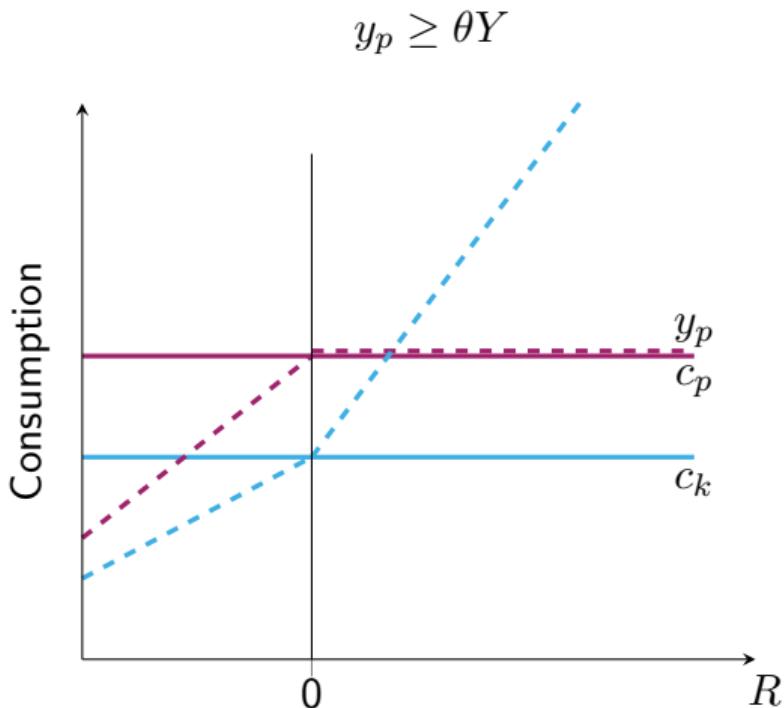
$$y_p \leq \theta Y.$$

# Migration Decisions with Transfer Constraint (No Dowry)

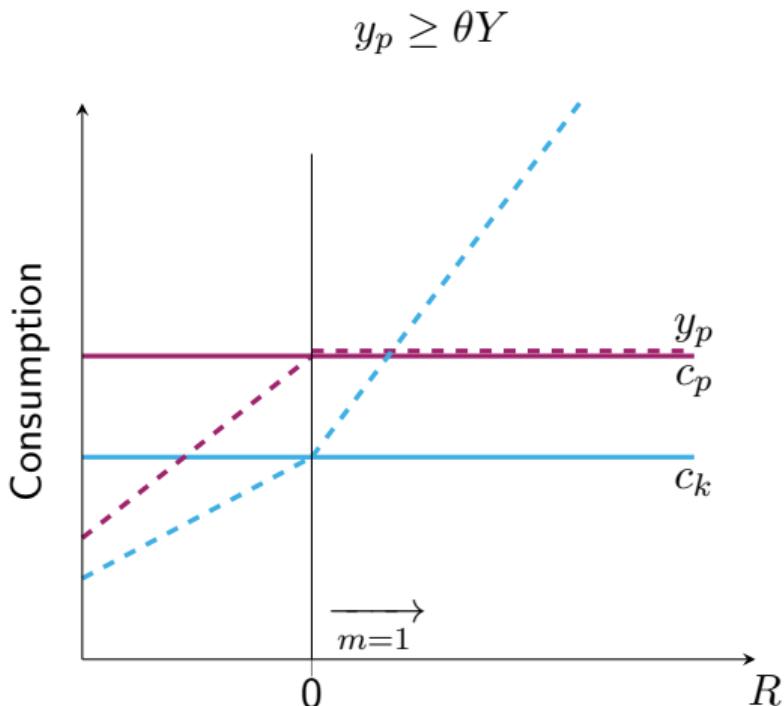
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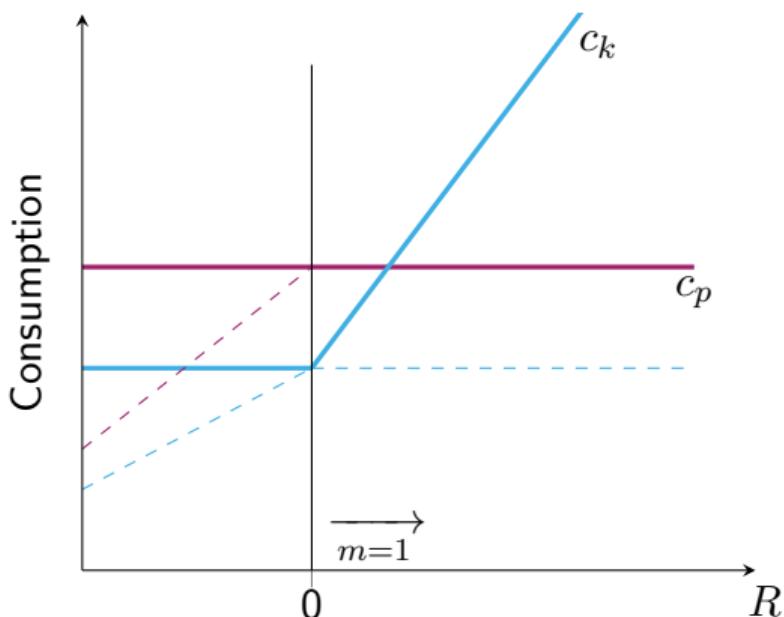


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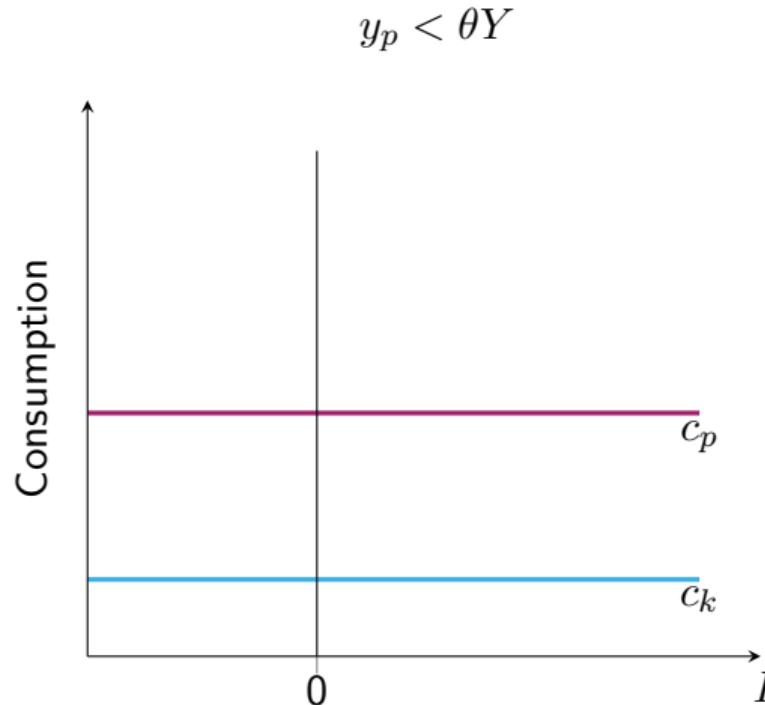
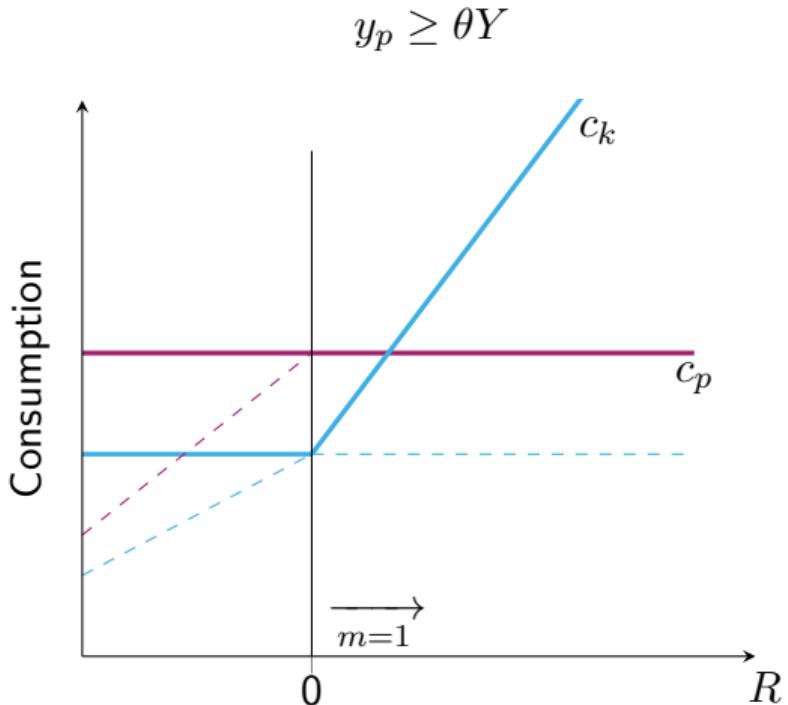


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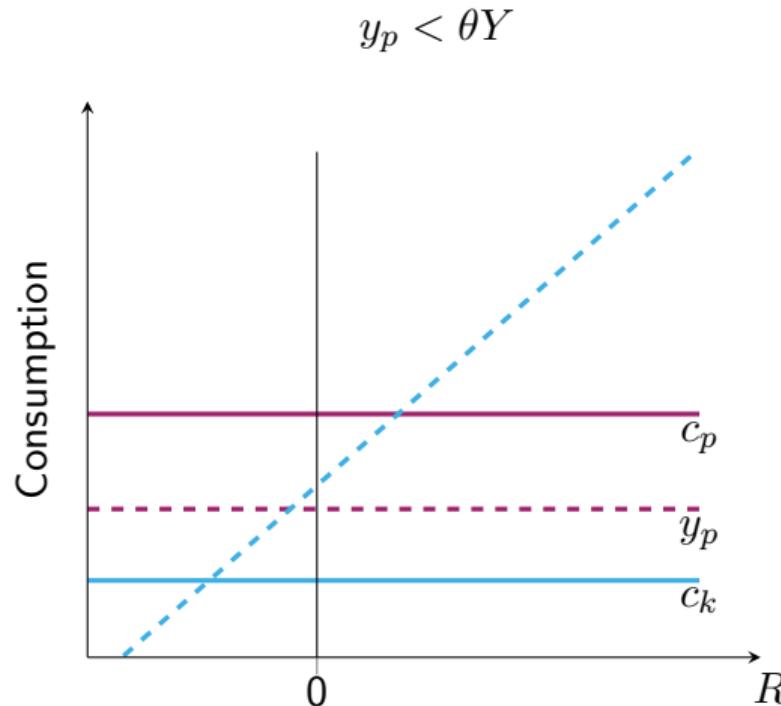
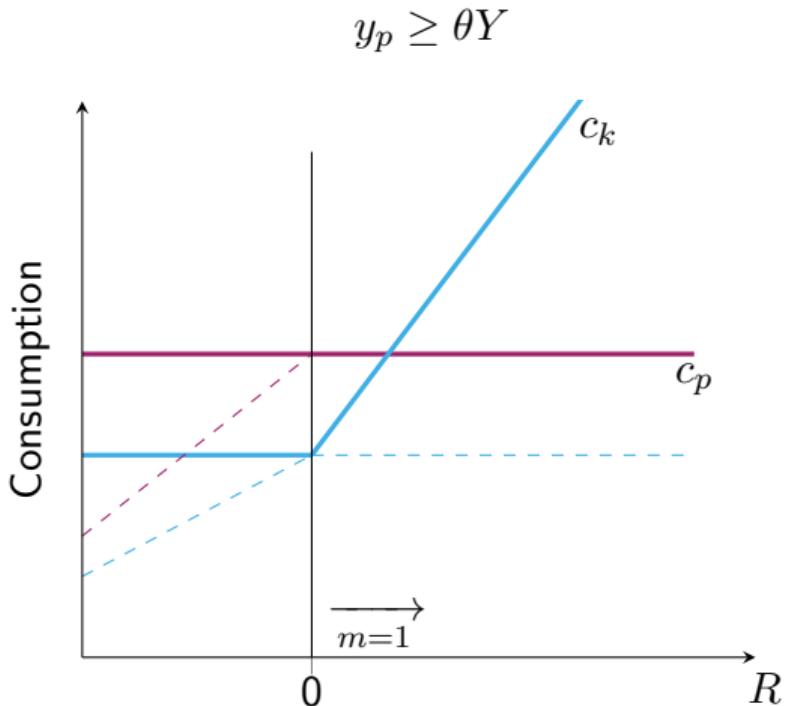
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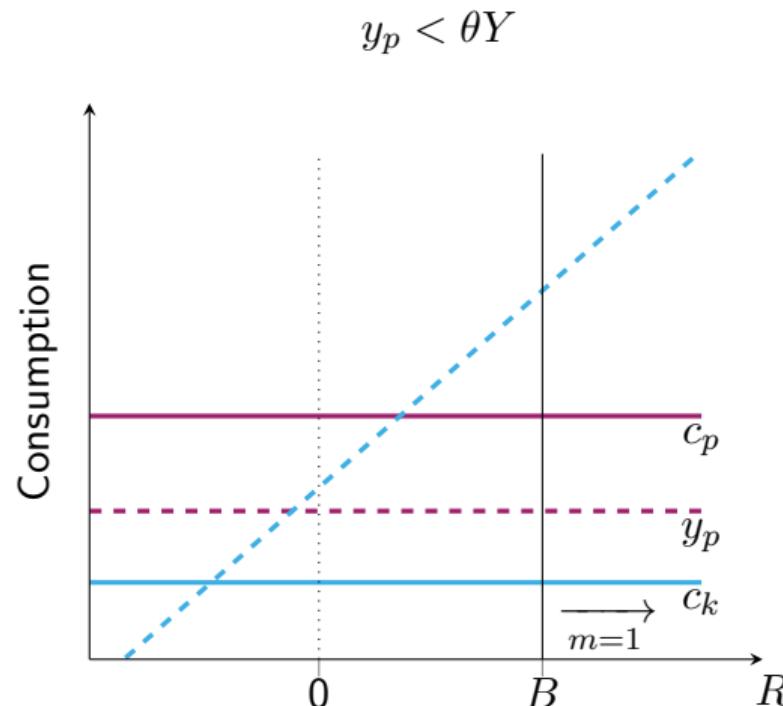
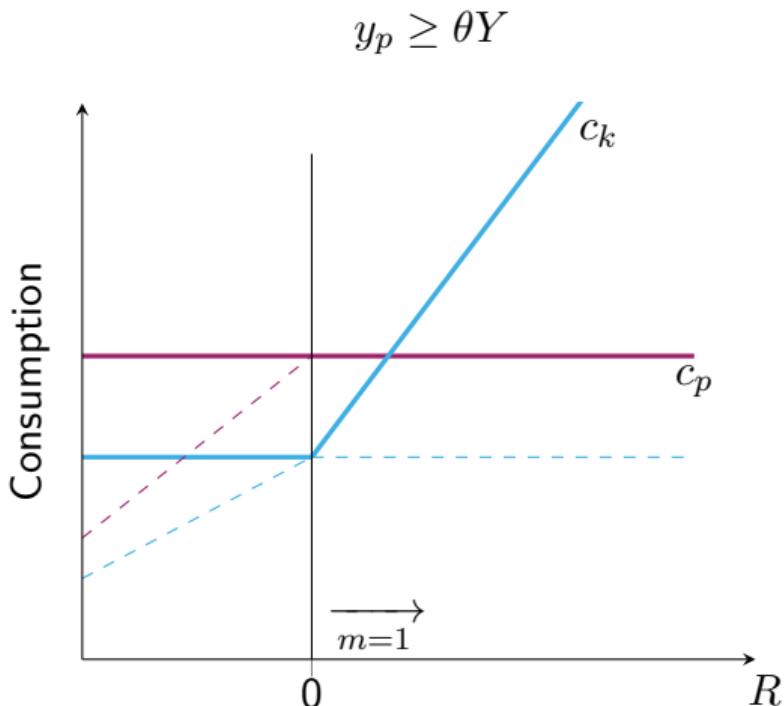
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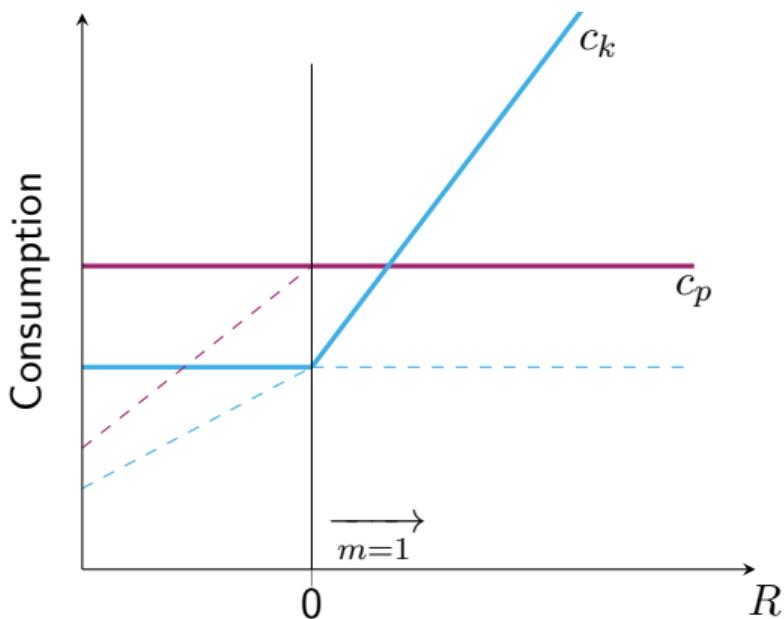


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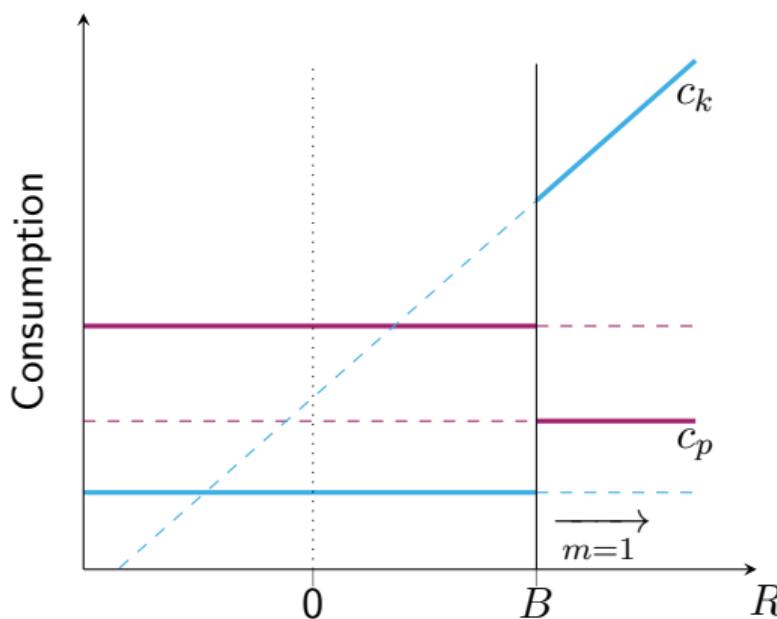


# Migration Decisions with Transfer Constraint (No Dowry)

$$y_p \geq \theta Y$$



$$y_p < \theta Y$$



## Migration with No Dowry

Two types of households:

- $y_p \geq \theta Y$ : “Satisfied” parents
  - Migration will occur as long as  $R \geq 0$ .
  - Parents may choose  $\tau < 0$  to equalize Pareto-weighted consumption, which lessens with higher  $R$ .
- $y_p < \theta Y$ : “Seeking” parents
  - Migration will occur if return outweighs cost of skewing the intra-household allocation,  $R \geq B > 0$ .
  - Without migration, sons transfer  $\alpha$ ; with migration, no transfers occur

## Household Problem: with Dowry

Liquid dowry allows households to choose  $\tau > 0$ , up to the value of  $E$ .

$$\max_{\substack{\alpha \geq 0, \tau \leq E \\ m \in \{0,1\}}} \theta \ln(c_p) + (1 - \theta) \ln(c_k)$$

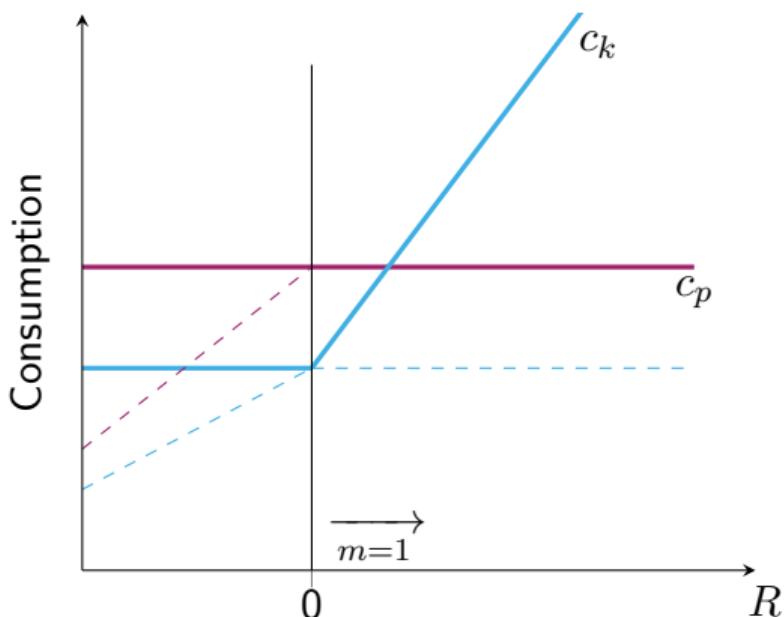
$$\text{s.t. } c_p \leq y_p + \tau + \alpha(1 - m)$$

$$c_k \leq y_k + Rm + E - \tau - \alpha(1 - m)$$

- Sons can share the benefit of migration by transferring liquid marriage gains.

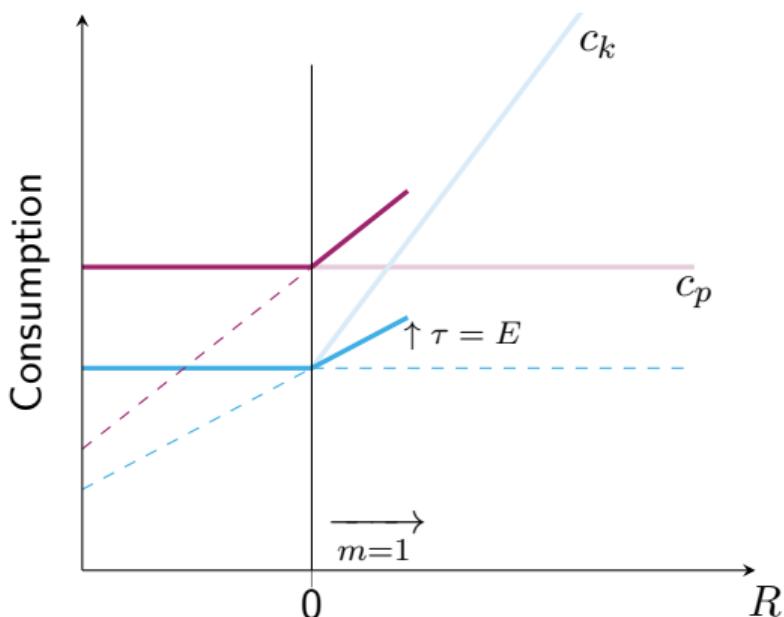
# Migration Decisions with Transfer Constraint and Dowry

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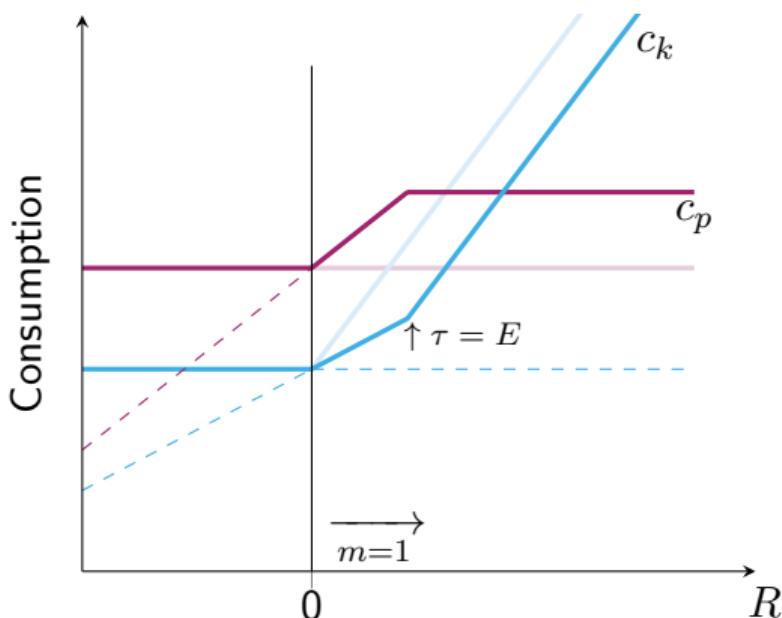
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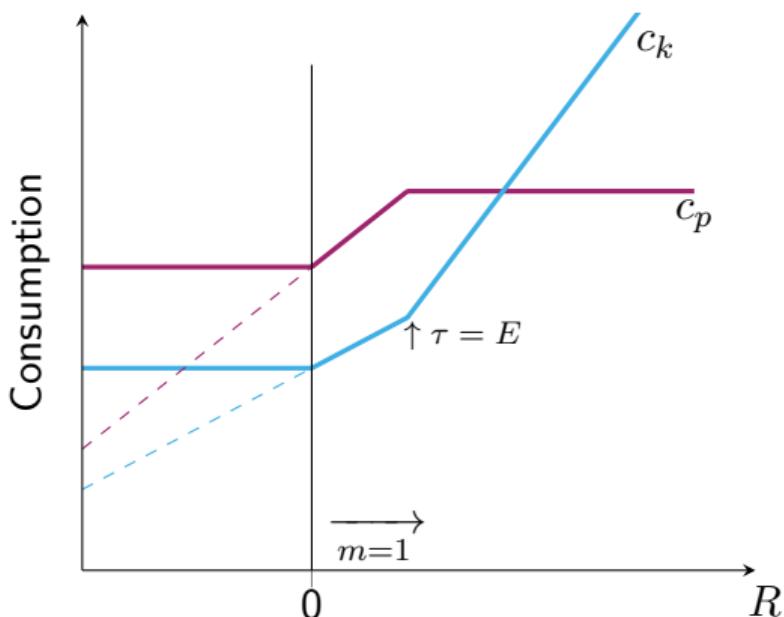
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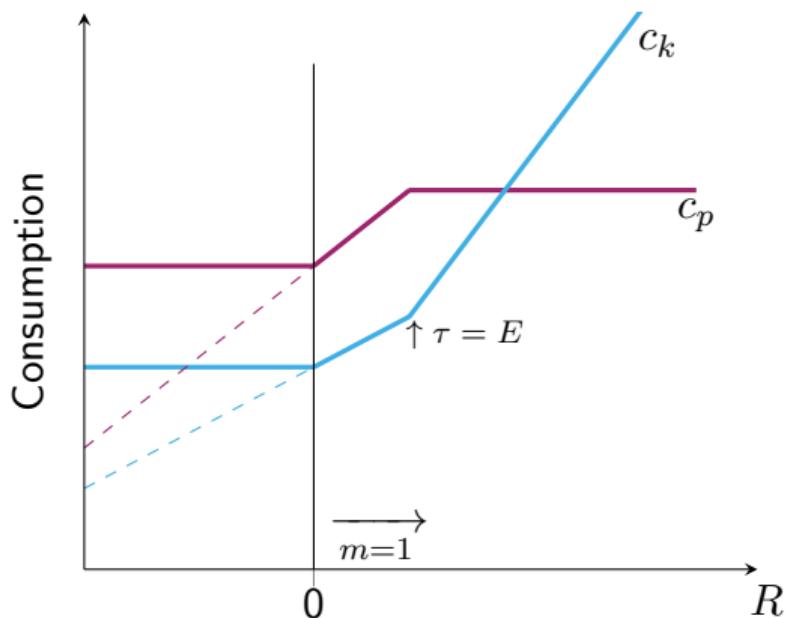
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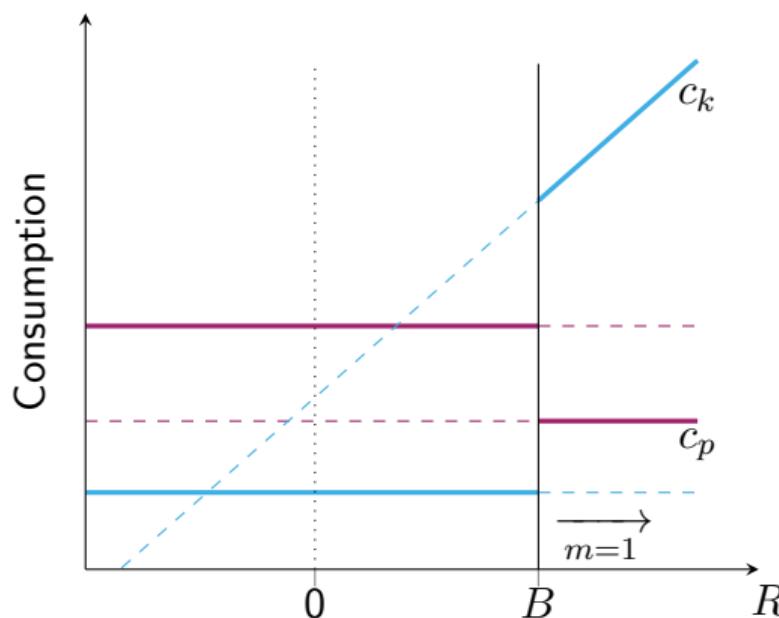


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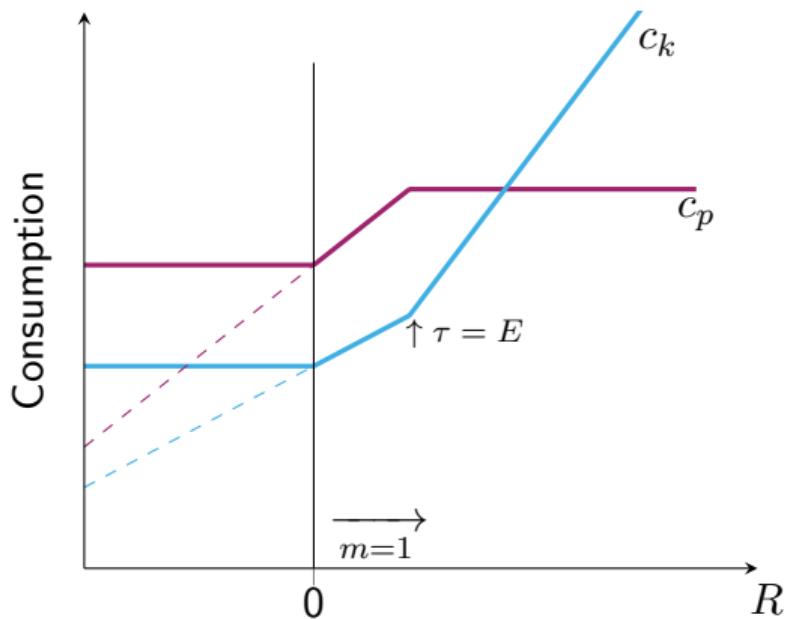


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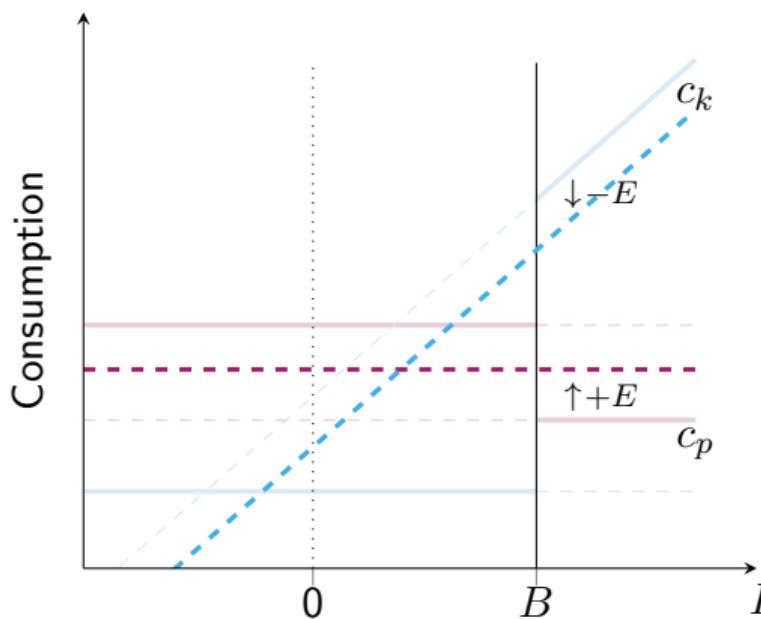


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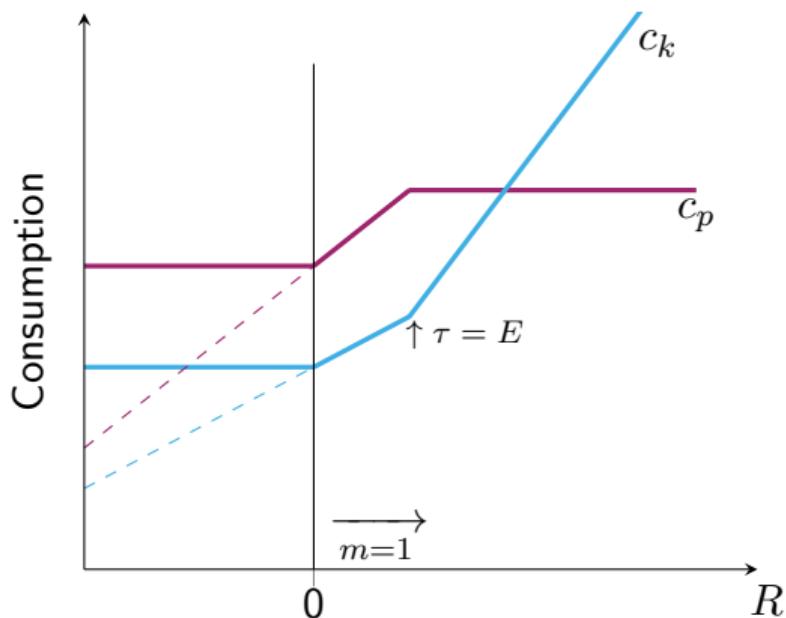


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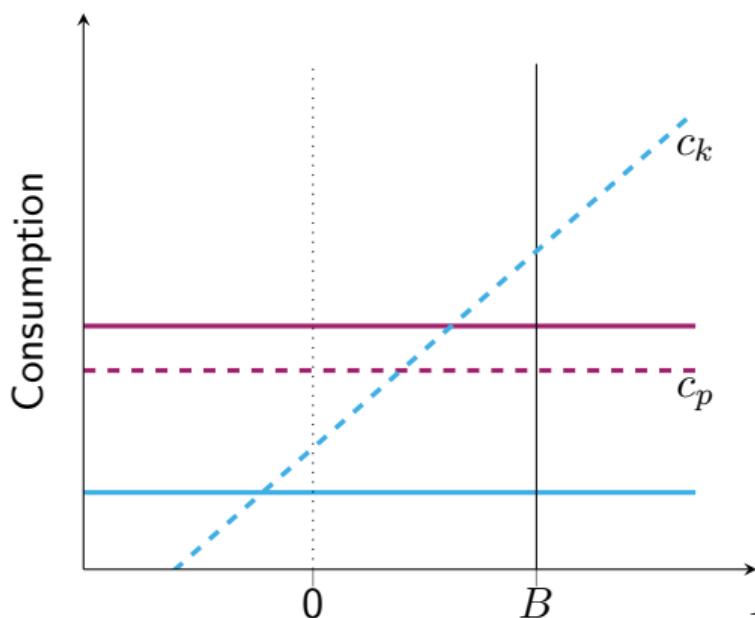


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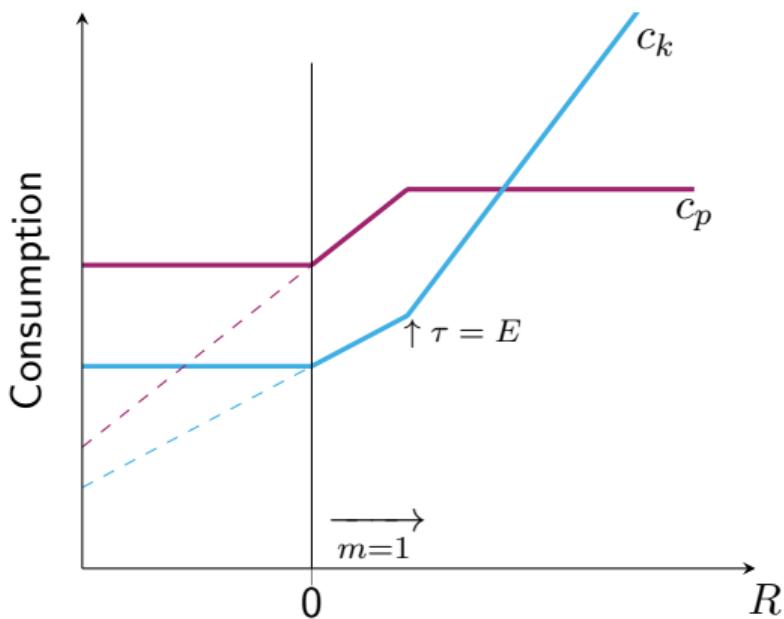


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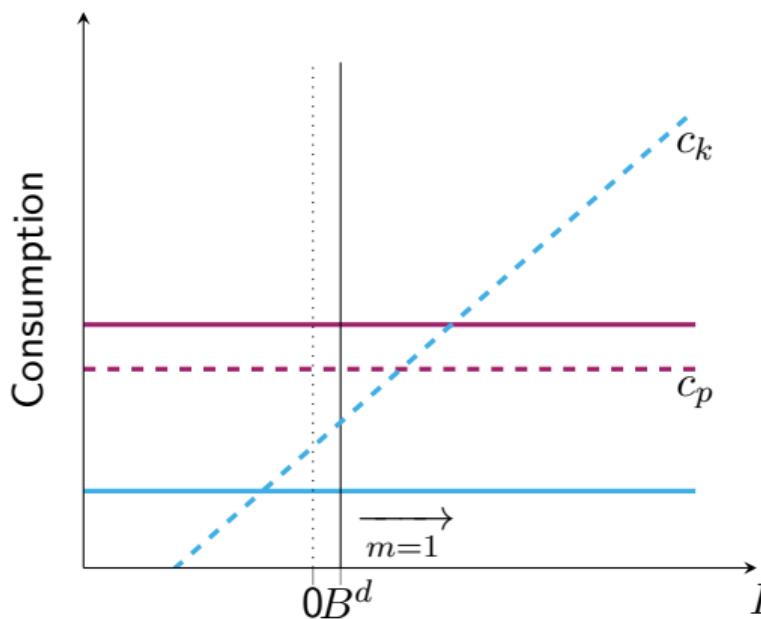


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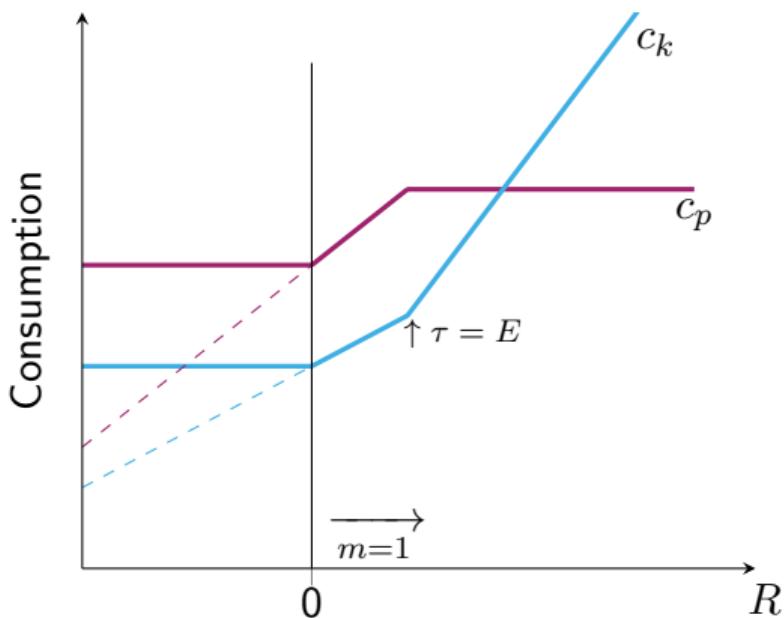


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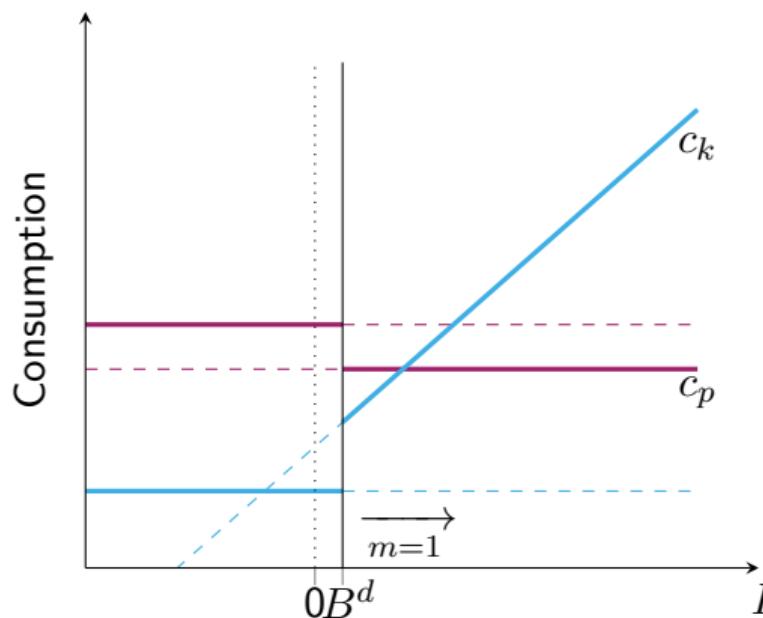


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## Migration and Transfers with Dowry

- $y_p \geq \theta Y$ : “Satisfied” parents
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  - $\tau$  increases in  $R$  until capped at  $E$ , allowing more optimal consumption sharing.

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- $y_p < \theta Y \leq y_p + E$ : “Satisfied”-only-with-dowry parents
  - Migration occurs when  $R \geq 0 < B$ : migration decisions become efficient
  - Sons can transfer  $\tau$  up to  $E$  to make up for lost income sharing.

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  - Sons can transfer  $\tau$  up to  $E$  to make up for lost income sharing.
- $y_p + E < \theta Y$ : “Seeking” parents
  - Migration occurs when  $R \geq B^d < B$ : lower bar for migration with dowry.
  - Without migration, sons can transfer through  $\tau$  and  $\alpha$ . With migration, sons transfer maximum  $\tau = E$ .

# Drivers of Transfers Conditional on Dowry

## Proposition 1

*Some parents will give and some parents will take:  $\tau$  can be negative or positive.*

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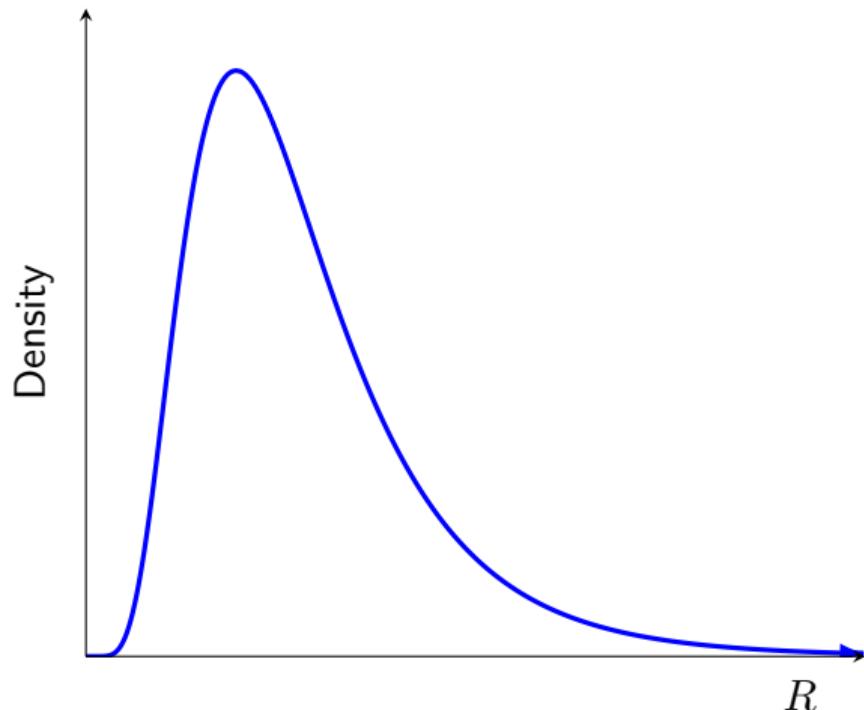
## Proposition 3

*When sons migrate, holding parental wealth constant,  $\tau$  is increasing in son income and increasing in parental Pareto weight,  $\theta$ .*

# Impact of Dowry on Baseline Migration and Response to Shocks

## Proposition 4

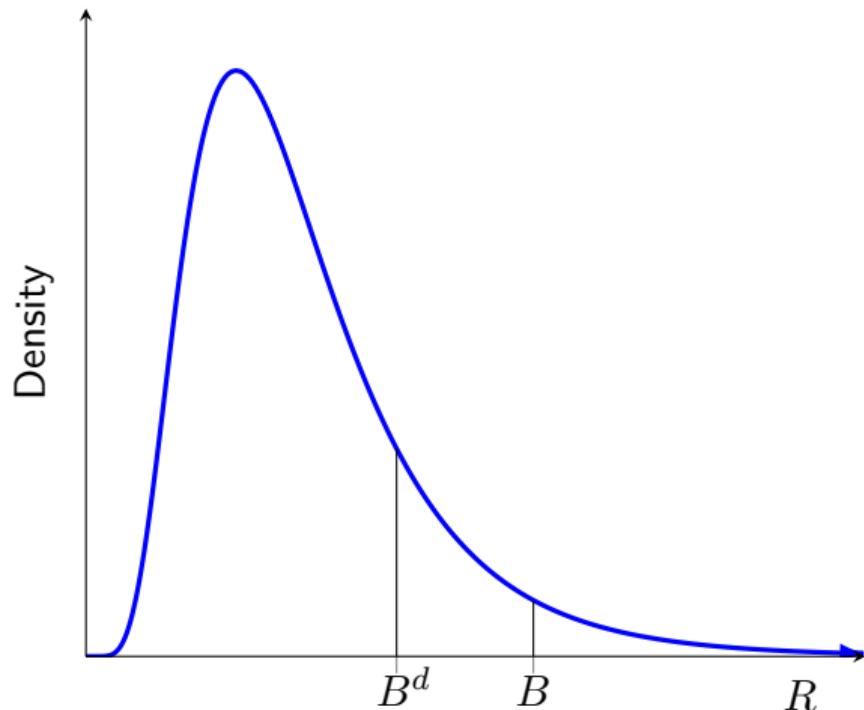
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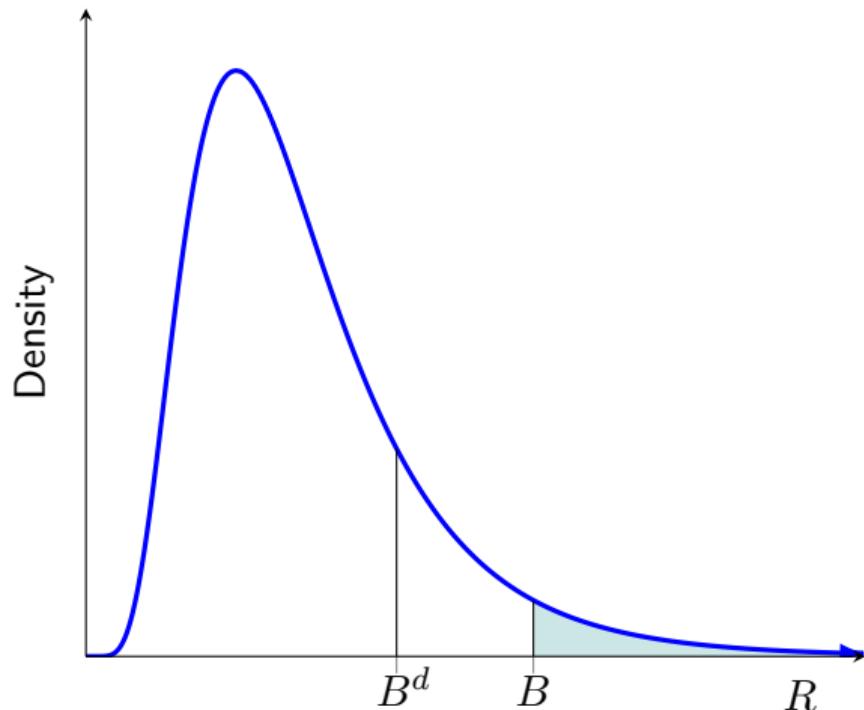
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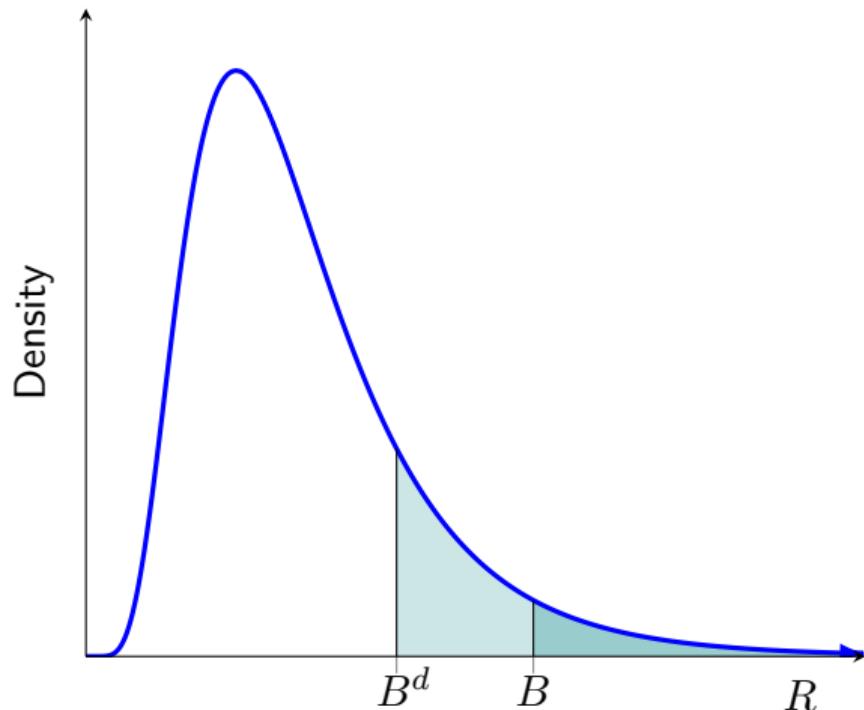
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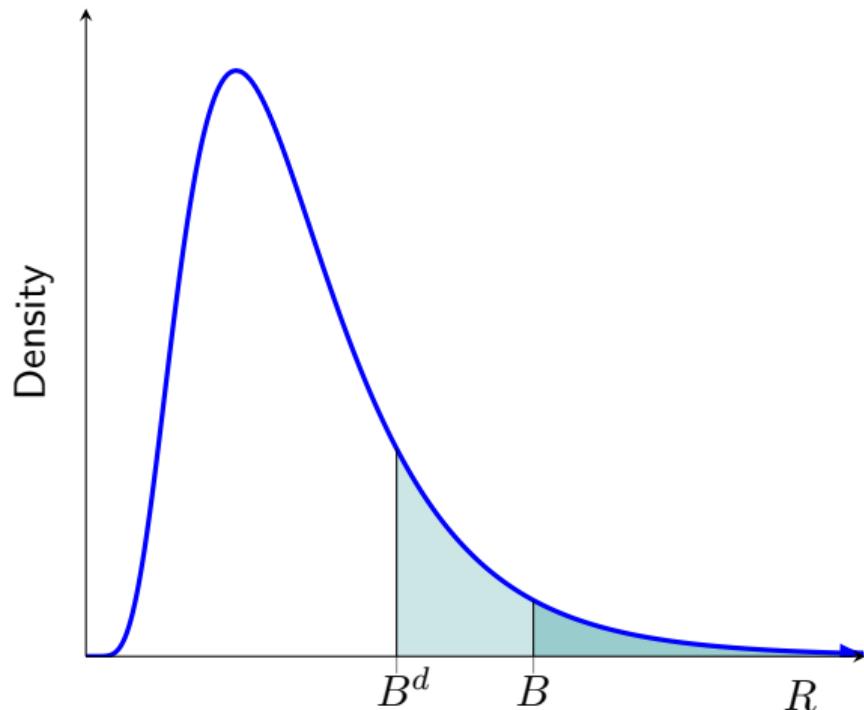
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# Impact of Dowry on Baseline Migration and Response to Shocks

## Proposition 5

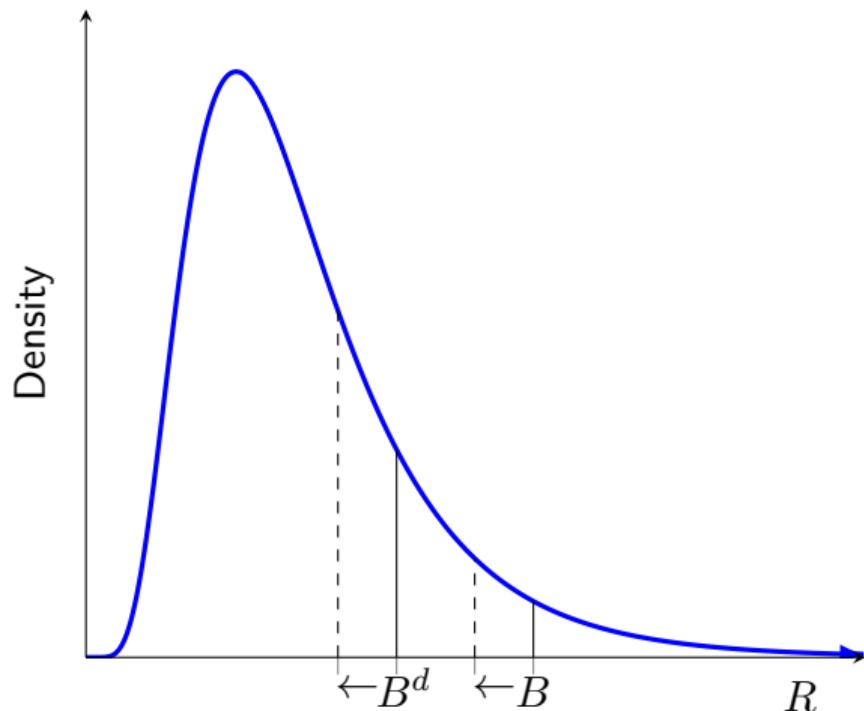
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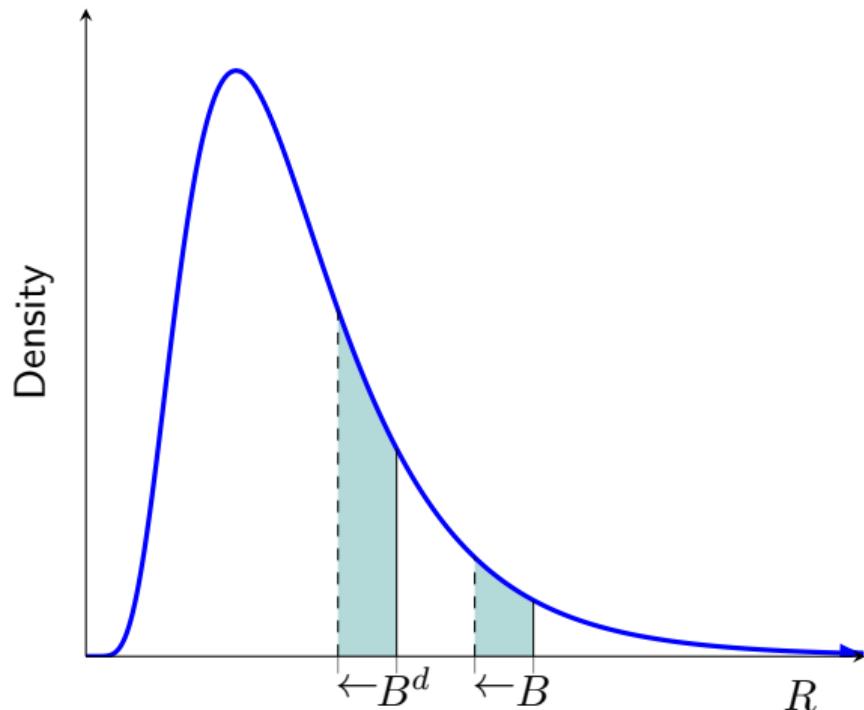
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## Adding Education Decisions

- We consider the case in which parents decide about the son's education before they marry.
- The effect of dowry on migration is unchanged.
- Parents take more dowry when the son is a more educated migrant (Proposition 3 revisited).
- When migration and education are complements, education increases more for dowry households when the cost of migration falls, reinforcing our mechanism.

# Modeling Remittances

- Suppose remittances are possible, at a cost. Budget constraints become:

$$c_P \leq y_P + \tau + \alpha$$

$$c_K \leq y_K + R_i m + E_i - \tau - \alpha - \gamma m \mathbb{1}[\alpha > 0]$$

- As long as the cost is non-zero, main implications for migration are preserved.

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## New data on migration and transfers

- Migrant son sample (at **destinations**)
  - We survey 557 men in Delhi, between the ages of 21 and 41.
  - Ask for a detailed account of the gifts that were given at the time of their wedding and who has “ownership rights” over it now.
- Rural parent sample (at **origins**)
  - We survey 2541 households with married sons in 34 districts located across 6 states in Northern India (Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, and Maharashtra).
  - We randomly ask about 2 sons, giving final sample size of 3069 sons, with 20% migrant sons.
  - Ask for account of gifts transferred at the wedding, and an estimate of the groom's parents ownership of gifts as reported by the parents themselves.
- Asking about **gifts** overcomes reservations about disclosing dowry.

## Summary statistics of sample

**Table:** Summary Statistics: Origin Survey

|                               | Mean   | SD      | Obs  |
|-------------------------------|--------|---------|------|
| Son's age                     | 29.28  | 6.81    | 3050 |
| Son's years of education      | 8.61   | 4.51    | 2832 |
| Son's Monthly Income          | 7,097  | 10,760  | 2354 |
| Parents Monthly Income        | 6,387  | 12,611  | 3068 |
| Ln(Son's occupation score)    | 8.49   | 0.34    | 2216 |
| Ln(Father's occupation score) | 8.39   | 0.35    | 2160 |
| Total dowry                   | 77,993 | 650,390 | 2138 |
| Share of Net Takers           | 0.29   | 0.45    | 1704 |
| Share of migrant sons         | 0.20   | 0.40    | 3066 |

## Summary statistics of sample (cont.)

**Table:** Summary Statistics: Destination Survey

|                               | Mean    | SD      | Obs |
|-------------------------------|---------|---------|-----|
| Son's age                     | 30.08   | 5.17    | 557 |
| Son's years of education      | 12.26   | 3.66    | 557 |
| Son's Monthly Income          | 21,197  | 24,035  | 557 |
| Ln(Son's occupation score)    | 8.96    | 0.69    | 506 |
| Ln(Father's occupation score) | 8.57    | 0.42    | 498 |
| Total dowry                   | 202,866 | 269,894 | 557 |
| Share of Net Takers           | 0.45    | 0.50    | 557 |
| Share of migrant sons         | 0.65    | 0.48    | 557 |

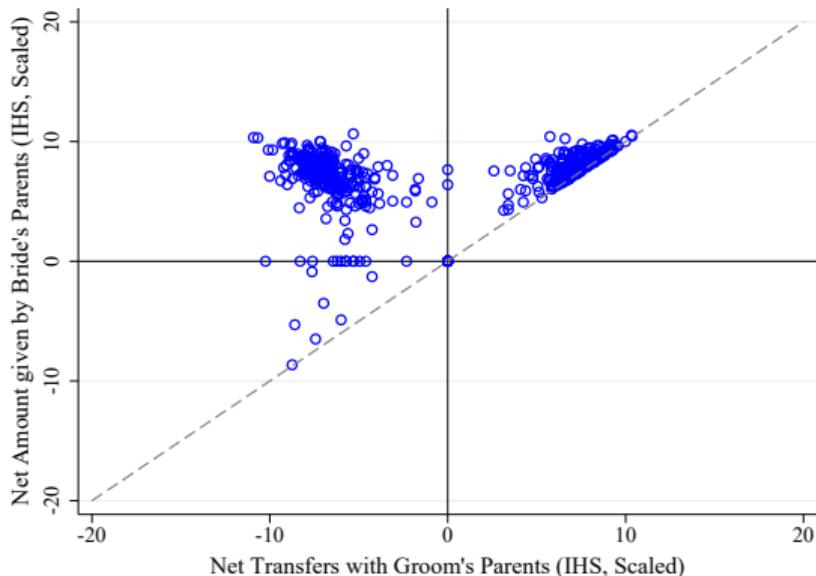
## Constructing Dowry and Net Transfer

- Respondents list the value of the different kinds of gifts given and received:
  - cash
  - jewelry
  - utensils and household items
  - furniture
  - transport items
  - land
  - personal items
  - other miscellaneous items
- They provide identity of who had **final ownership rights** over each of the items.
- We calculate the total value of gifts given from the bride's side, gifts given from the groom's side, and the amount 'owned' by the groom's parents from both of these categories.
- For origin survey, we only have ownership by groom's parents, not other parties. We also streamline to not ask amounts for each category, but rather percentages and total amount.

## Net Transfer Measure

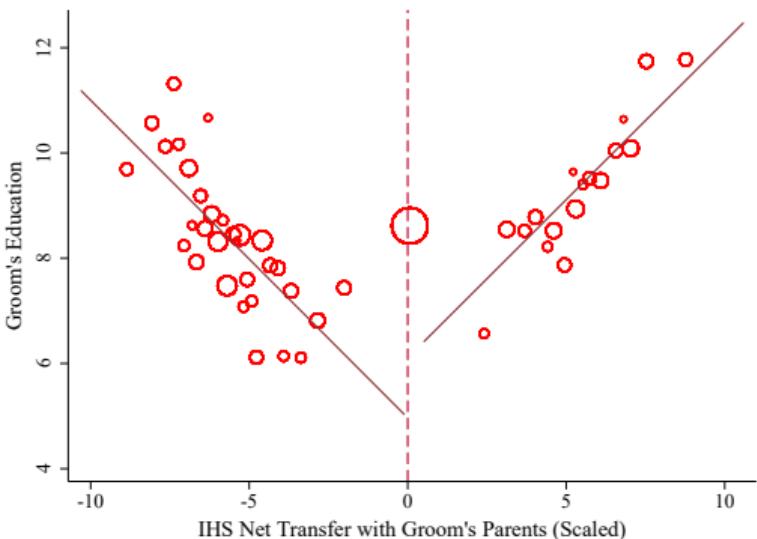
- Net transfer with groom's parents
  - = Gross transfer from bride's parents taken by groom's parents
  - Gross transfer from groom's parents to any party
  - + Gross transfer from groom's parents taken by groom's parents

## 35-50% of Groom's Parents Benefit from Dowry, Others Give



Data Source: Destination Survey

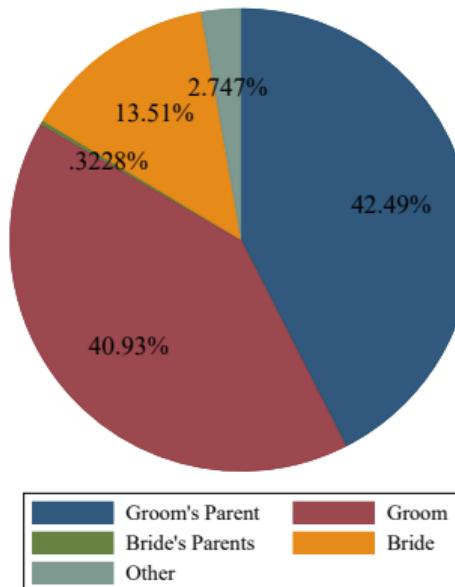
# V-shaped Relationship Between Dowry Taken and Son's Education



**Figure:** Groom Education vs. Transfers with Groom's Parents

Data Source: Origin Survey

# Dowry Ownership is Distributed to Several Parties



Data Source: Origin survey

# Migration, Socioeconomic Status, and Net Taking Behavior

## Proposition 2

|                                 | Origin Survey:      |                  | Destination Survey: |                  |
|---------------------------------|---------------------|------------------|---------------------|------------------|
|                                 | (1)<br>Net taker    | (2)<br>Net taker | (3)<br>Net taker    | (4)<br>Net taker |
| Migrant Son                     | 0.071*<br>(0.039)   |                  | 0.413***<br>(0.062) |                  |
| Coresident                      | 0.097***<br>(0.032) |                  | 0.414***<br>(0.070) |                  |
| Ln(Son Occ Score)               |                     |                  |                     |                  |
| Migrant Son × Ln(Son Occ Score) |                     |                  |                     |                  |
| Ln(Father Occ Score)            |                     |                  |                     |                  |
| Parents have veto power         |                     |                  |                     |                  |
| Year of marriage fixed effects  | Yes                 | Yes              | Yes                 | Yes              |
| Education dummies               | Yes                 | No               | Yes                 | No               |
| Mean of dependent variable      | 0.293               | 0.293            | 0.447               | 0.449            |
| Adjusted R-squared              | 0.004               | 0.028            | 0.007               | 0.062            |
| Observations                    | 1698                | 1174             | 557                 | 552              |

# Migration, Socioeconomic Status, and Net Taking Behavior

## Proposition 3

|                                 | Origin Survey:      |                    | Destination Survey: |                  |
|---------------------------------|---------------------|--------------------|---------------------|------------------|
|                                 | (1)<br>Net taker    | (2)<br>Net taker   | (3)<br>Net taker    | (4)<br>Net taker |
| Migrant Son                     | 0.071*<br>(0.039)   | -0.051<br>(0.059)  | 0.413***<br>(0.062) |                  |
| Coresident                      | 0.097***<br>(0.032) | 0.091**<br>(0.037) | 0.414***<br>(0.070) |                  |
| Ln(Son Occ Score)               |                     | -0.000<br>(0.054)  |                     |                  |
| Migrant Son × Ln(Son Occ Score) |                     | 0.207**<br>(0.099) |                     |                  |
| Ln(Father Occ Score)            |                     | -0.011<br>(0.040)  |                     |                  |
| Parents have veto power         |                     |                    |                     |                  |
| Year of marriage fixed effects  | Yes                 | Yes                | Yes                 | Yes              |
| Education dummies               | Yes                 | No                 | Yes                 | No               |
| Mean of dependent variable      | 0.293               | 0.293              | 0.447               | 0.449            |
| Adjusted R-squared              | 0.004               | 0.028              | 0.007               | 0.062            |
| Observations                    | 1698                | 1174               | 557                 | 552              |

# Migration, Socioeconomic Status, and Net Taking Behavior

## Proposition 3

|                                 | Origin Survey:      |                    | Destination Survey: |                     |
|---------------------------------|---------------------|--------------------|---------------------|---------------------|
|                                 | (1)<br>Net taker    | (2)<br>Net taker   | (3)<br>Net taker    | (4)<br>Net taker    |
| Migrant Son                     | 0.071*<br>(0.039)   | -0.051<br>(0.059)  | 0.413***<br>(0.062) | 0.346***<br>(0.050) |
| Coresident                      | 0.097***<br>(0.032) | 0.091**<br>(0.037) | 0.414***<br>(0.070) | 0.345***<br>(0.060) |
| Ln(Son Occ Score)               |                     | -0.000<br>(0.054)  |                     |                     |
| Migrant Son × Ln(Son Occ Score) |                     | 0.207**<br>(0.099) |                     |                     |
| Ln(Father Occ Score)            |                     | -0.011<br>(0.040)  |                     |                     |
| Parents have veto power         |                     |                    |                     | 0.294***<br>(0.054) |
| Year of marriage fixed effects  | Yes                 | Yes                | Yes                 | Yes                 |
| Education dummies               | Yes                 | No                 | Yes                 | No                  |
| Mean of dependent variable      | 0.293               | 0.293              | 0.447               | 0.449               |
| Adjusted R-squared              | 0.004               | 0.028              | 0.007               | 0.062               |
| Observations                    | 1698                | 1174               | 557                 | 552                 |

# Outline

Intro and Stylized Facts

Theoretical Framework

Dowry Ownership Results

Migration Shock Results

Conclusion

## Variation in Historical Dowry Tradition

- Model predictions rely in some households living in regions with stronger dowry practice.
- We take advantage of large variation in the ancestral tribes in different regions in marriage practices.
- As long as cultural changes are slow, and dowry traditions somewhat path dependent, there will be more liquid assets available in “dowry regions.”
- Model predicts more migration and greater responses to a shock to migration cost in these regions.

Data

## Historical Dowry Measure

- Draw on *Ancestral Characteristics Data* (Nunn & Giuliano, 2018).
- Measures district-level share of population who traditionally practiced dowry by combining
  - Information on **ethnicity-level cultural traits** from the *Ethnographic Atlas*.
  - Information on **locations of the current distribution of language groups** from the *Ethnologue*.
  - Information on modern **population density** from Landscan data.
  - **Low Dowry** districts are defined as those having less than 10% of their population traditionally practicing dowry (about 58% of the sample)

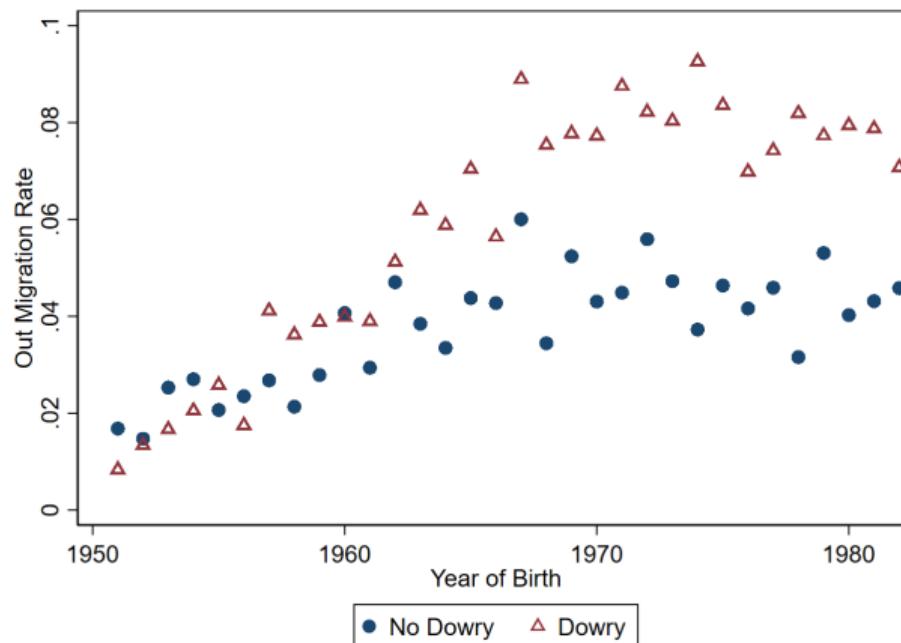
## Validating Historical Dowry Measure

|                            | (1)<br>Ln(Gross Dowry) | (2)<br>Ln(Net Dowry) | (3)<br>Ln(Gross Dowry) | (4)<br>Ln(Net Dowry) |
|----------------------------|------------------------|----------------------|------------------------|----------------------|
| Historical dowry           | 1.124***<br>(0.216)    | 1.157***<br>(0.269)  | 0.418*<br>(0.223)      | 0.740**<br>(0.308)   |
| Zone ID                    | No                     | No                   | Yes                    | Yes                  |
| Mean of dependent variable | 7.917                  | 7.462                | 7.917                  | 7.462                |
| Adjusted R-squared         | 0.072                  | 0.061                | 0.194                  | 0.110                |
| Observations               | 50782                  | 32418                | 50782                  | 32418                |

Data Source: REDS 1998

# Emigration by Dowry Status (pre-GQ)

## Proposition 4



## Golden Quadrilateral

- To test our model predictions from the model, we use a migration shock stemming from the construction of the Golden Quadrilateral (GQ) national highway system
  - GQ reduced migration costs
- We study its effect on migration using data from the National Sample Survey (NSS)
- We use a staggered-entry difference-in-differences design (Callaway and Sant'Anna 2020; Borusyak, Jaravel and Speiss 2021) to estimate event studies.

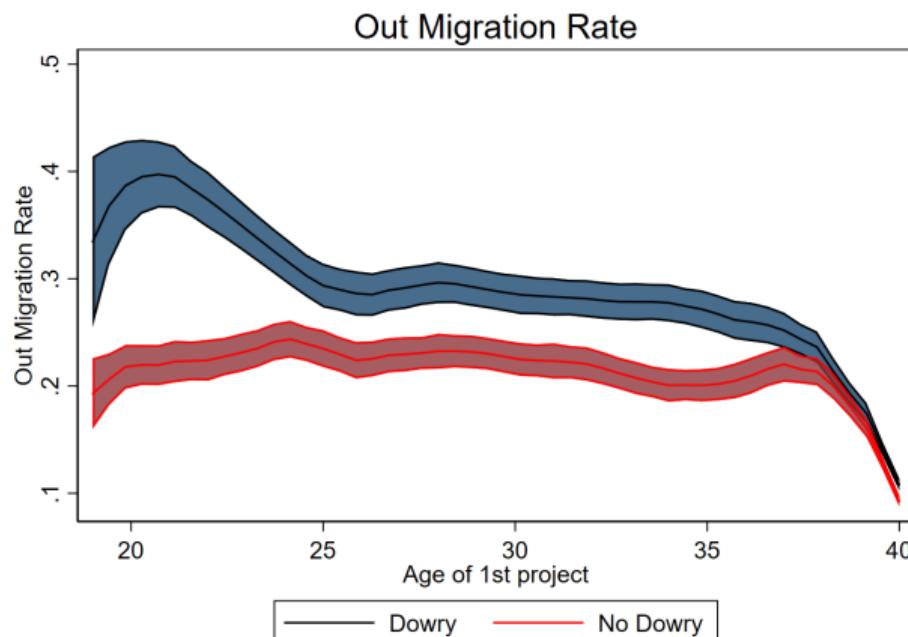
## Golden Quadrilateral: Measurement

- CapEx: Data on all infrastructure projects in India.
  - GPS data on all govt. projects: allows us to identify project location.
  - Start and end date of project.
- Cross-reference with report on all GQ projects by National Highway Development Project (2010-2011) to identify GQ projects.

**Figure:** Map of GQ and NS-EW corridors

# Migration Rates by Age of First GQ Project

## Proposition 5



Data Source: NSS 2007, sample of males 18+ years.

## Staggered Entry Event Study Designs

- Recent developments: traditional models do not easily recover interpretable estimates of ATT.
  - Especially if effects are dynamic or heterogeneity in responses.

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- Callaway and Sant'Anna (2020):
  - Estimate  $\text{ATT}(g,t)$ , where  $g$  is the cohort when district received GQ.
  - Do not use previously treated group in comparison group (Goodman-Bacon, 2019).
  - Can aggregate  $\text{ATT}(g,t)$  to  $\text{ATT}(g)$  or  $\text{ATT}(t)$  with appropriate weights.
  - 'Doubly robust estimator' with bootstrapping for inference.

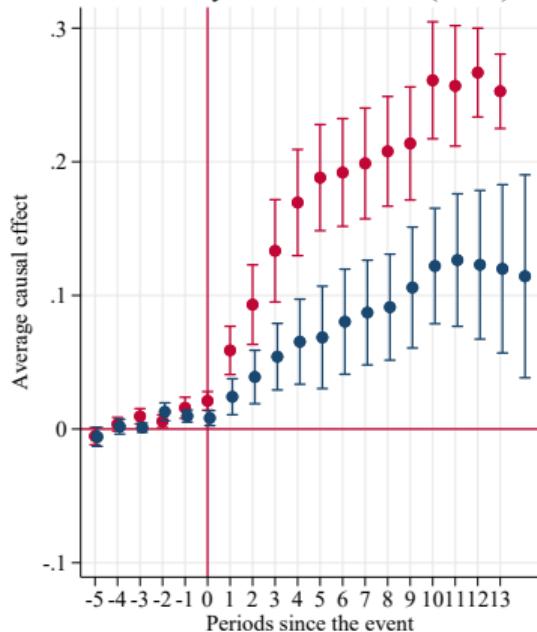
## Staggered Entry Event Study Designs

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  - Can aggregate  $\text{ATT}(g,t)$  to  $\text{ATT}(g)$  or  $\text{ATT}(t)$  with appropriate weights.
  - 'Doubly robust estimator' with bootstrapping for inference.
- Borusyak, Javarel and Spiess (2021):
  - Imputation based approach.
  - Model non-treated potential outcome using only control group (never and not-yet treated).
  - Extrapolate to impute potential outcomes of treated units.
  - Aggregate individual level ATT to average effect for each event time.

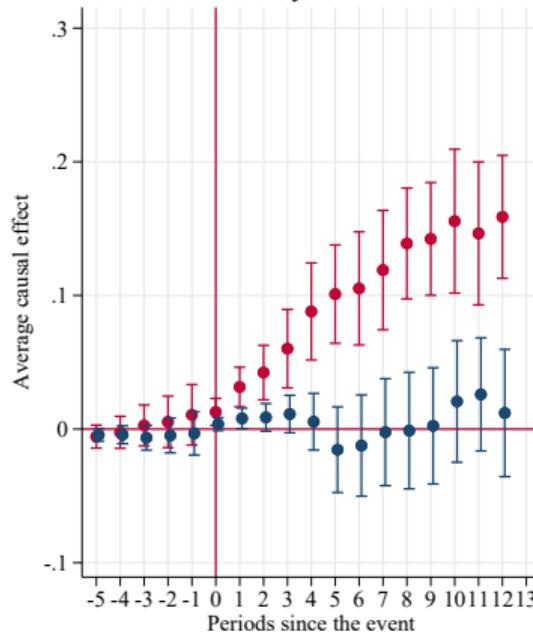
# Effects of GQ on Emigration by Dowry Status

## Proposition 5

Callaway and Sant'Anna (2020)



Borusyak et al.



Males 13-22  
(below median  
marriage age).

No effect at older  
ages. Males 23-45

Data Source: NSS  
2007

● Dowry   ● No Dowry

● Dowry   ● No Dowry

# Outline

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## Summary

- We outline a model of the household where dowry can provide support to parents who lose out when their sons leave home.
- We first demonstrate that grooms' parents taking from sons is a widespread, though not universal, phenomenon.
- We then show that taking is more frequent and amounts are greater when sons migrate, and co-moves with son's income only when sons migrate.
- We test the model's predictions that this liquidity might promote migration using the Golden Quadrilateral, and find areas with historical dowry much more responsive to falling costs of migration.

## Discussion and Next Steps

- While there may be drawbacks of dowry, its role in providing liquidity to resolve modernization frictions has not been previously studies.
- These frictions may be important in terms of labor market misallocation and economic growth, and so if dowry were banned, may be important for pensions, loans, or mobile money to emerge to fill this gap.
- Future research could also examine ways in which dowry can serve this purpose without exacerbating gender inequalities.
- Next steps for us are to look at whether education also increases in response to shocks, and try to calculate some of the benefits from reducing frictions.

# Extra Slides

## Occupational score and net taking behavior

|                                    | (1)<br>Net taker            | (2)<br>Net taker             | (3)<br>Net taker               |
|------------------------------------|-----------------------------|------------------------------|--------------------------------|
| Ln(Son Occ Score)                  | 0.045<br>(0.042)<br>[0.287] |                              | 0.001<br>(0.054)<br>[0.986]    |
| Son is migrant                     |                             | -0.026<br>(0.030)<br>[0.393] | -0.121**<br>(0.051)<br>[0.018] |
| Son is migrant × Ln(Son Occ Score) |                             |                              | 0.200**<br>(0.098)<br>[0.042]  |
| Ln(Father Occ Score)               |                             |                              | -0.011<br>(0.040)<br>[0.791]   |
| Year of marriage dummies           | Yes                         | Yes                          | Yes                            |
| State fixed effect                 | No                          | Yes                          | Yes                            |
| Mean of dependent variable         | 0.287                       | 0.293                        | 0.293                          |
| Adjusted R-squared                 | -0.007                      | 0.023                        | 0.025                          |
| Observations                       | 1311                        | 1671                         | 1174                           |

Data Source: Origin Survey

# Veto Power

|                                | (1)                            | (2)                            | (3)                            |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                | Net taker                      | Net taker                      | Net taker                      |
| Parents have veto power        | 0.299***<br>(0.054)<br>[0.000] | 0.372***<br>(0.143)<br>[0.010] | 0.263***<br>(0.087)<br>[0.003] |
| Migrant                        | 0.090<br>(0.061)<br>[0.140]    | 0.141<br>(0.121)<br>[0.244]    | 0.316***<br>(0.087)<br>[0.000] |
| Coresident                     | 0.044<br>(0.052)<br>[0.393]    | 0.099<br>(0.113)<br>[0.380]    | 0.293**<br>(0.123)<br>[0.017]  |
| Migrant × Veto                 |                                | -0.062<br>(0.141)<br>[0.660]   | 0.039<br>(0.109)<br>[0.719]    |
| Coresident × Veto              |                                | -0.065<br>(0.126)<br>[0.607]   | 0.047<br>(0.152)<br>[0.758]    |
| Migrant × coresident           |                                |                                | -0.240<br>(0.180)<br>[0.184]   |
| Migrant × coresident × Veto    |                                |                                | -0.095<br>(0.209)<br>[0.650]   |
| Year of marriage fixed effects | Yes                            | Yes                            | Yes                            |
| Mean of dependent variable     | 0.449                          | 0.449                          | 0.449                          |
| Adjusted R-squared             | 0.056                          | 0.052                          | 0.055                          |
| Observations                   | 552                            | 552                            | 552                            |

Data Source: Destination Survey

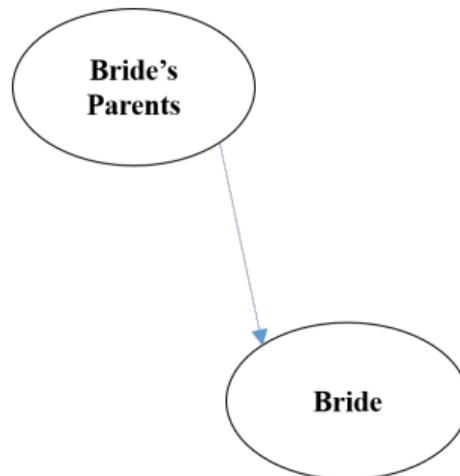
# What is dowry?

1. A transfer to clear the marriage market (Becker 1991, Anderson and Bidner 2015)?

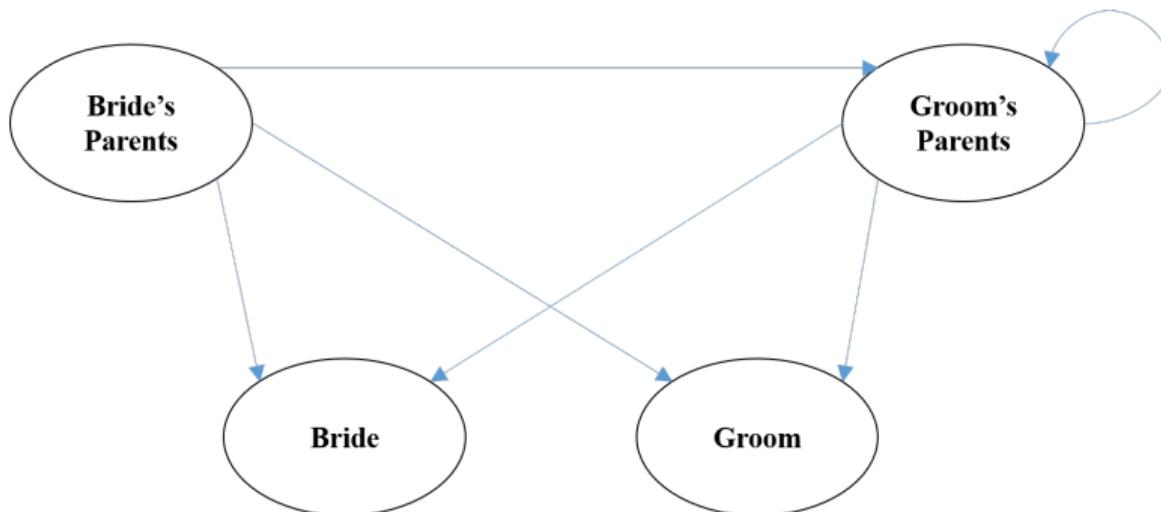


## What is dowry?

2. An early bequest to daughters (Goody and Tambiah 1973, Botticini and Siow 2003, Edlund 2006)?



## Empirically, a more complex phenomenon



## From the literature, can think about dowry as three concepts

### 1. Gross dowry

- Everything the bride's parents give (frequently the measurement used)

### 2. Net dowry

- What the bride's parents give minus what the groom's parents give (Becker)

### 3. Groom's parents' net share (unmeasured until now)

- What the groom's parents *take* minus what they give

# India Rural Economic and Demographic Survey

Demographic Schedule Page No. 29, 30

**Deck 215: (Q. 512) Details of Every Son & Daughter not residing in the Household Non-mandatory multiple card**

| Sl. | Question # and Particulars   | Col.  | Child 1 | Child 2 | Child 3 | Child 4 | Child 5 | Child 6 |
|-----|--|-------|---------|---------|---------|---------|---------|---------|
| 1   | Study number (95)  | 1-2   | 95      | 95      | 95      | 95      | 95      | 95      |
| 2   | 1999 Interview number (As in deck 1)                                 | 3-10  |         |         |         |         |         |         |
| 3   | Deck number (215)  | 11-13 | 215     | 215     | 215     | 215     | 215     | 215     |
| 4   | Total # of son or daughter not member of HH                          | 14-15 |         |         |         |         |         |         |
| 5   | Serial number of son or daughter                                     | 16-17 | 1       | 2       | 3       | 4       | 5       | 6       |
| 6   | Sl. # of live birth (refer Deck 204)                                 | 18-19 |         |         |         |         |         |         |
| 7   | Whether, Son =1, Daughter =2   | 20    |         |         |         |         |         |         |
| 8   | Year of birth (Calendar year)  | 21-24 |         |         |         |         |         |         |
| 9   | Whether, Ever married =1, Unmarried =2                               | 25    |         |         |         |         |         |         |
| 10  | Year of marriage (Calendar year)                                     | 26-29 |         |         |         |         |         |         |
| 11  | Dowry recd. (Code actual amount & for ml=1)                          | 30-35 |         |         |         |         |         |         |
| 12  | Dowry paid (Code actual amount & for ml=1)                           | 36-41 |         |         |         |         |         |         |
| 13  | # of years of schooling  | 42-43 |         |         |         |         |         |         |
| 14  | # of years of schooling of spouse                                    | 44-45 |         |         |         |         |         |         |
| 15  | Caste of spouse (Annex 2)  | 46-48 |         |         |         |         |         |         |
| 16  | Left the HH when first married(Yes=1, No=2)                          | 49    |         |         |         |         |         |         |
| 17  | If yes, where did he/she go *1                                       | 50    |         |         |         |         |         |         |
| 18  | District of village/town *2  | 51    |         |         |         |         |         |         |
| 19  | Where does he/she lives at present *1                                | 52    |         |         |         |         |         |         |
| 20  | District of village/town *2  | 53    |         |         |         |         |         |         |
| 21  | Distance (Km) of place of living to this village                     | 54-57 |         |         |         |         |         |         |
| 22  | Is he/she in school now? (Yes=1, No=2)                               | 58    |         |         |         |         |         |         |
| 23  | His/her total HH landholdings (Acres 0.00)                           | 59-63 |         |         |         |         |         |         |
| 24  | His/her total HH size (# of members)                                 | 64-65 |         |         |         |         |         |         |
| 25  | Amount of money (Rs.) contributed by his/her HH to your HH during RP | 66-71 |         |         |         |         |         |         |
| 26  | Amount of money (Rs.) contributed by your HH to his/her HH during RP | 72-77 |         |         |         |         |         |         |

\*1: Same village =1, Other village =2, Town =3

\*2: Same district =1, Other district of the State =2, District of adjoining states =3, District of other states =4, Foreign =5

# India Human Development survey

## HDPI-2 (women's questionnaire)

### 4. Marriage Practices

Now, I would like to ask you some questions about marriage customs in your community (jati) for a family like yours?

4.1 Do people marry a daughter in her natal village?  
No=0  Yes=1  MP1

4.2 Do people marry a daughter to her cousin?  
No=0  Yes=1  MP2

4.3 At the time of the marriage, how much money is usually spent by the boy's family?

PROBE TO GET THE AMOUNT FOR A TYPICAL WEDDING.  
TRY TO GET ONE NUMBER, BUT ACCEPT A RANGE  
IF THAT IS WHAT IS GIVEN.

BETWEEN RUPEES      MP3a

TO RUPEES      MP3b  
IF ONLY ONE AMOUNT GIVEN, ENTER SAME NUMBER IN BOTH FIELDS.

4.4 At the time of the marriage, how much money is usually spent by the girl's family?

BETWEEN RUPEES      MP4a

TO RUPEES      MP4b  
IF ONLY ONE AMOUNT GIVEN, ENTER SAME NUMBER IN BOTH FIELDS.

4.5 Generally in your community for a family like yours, what are the kind of things that are given as gifts at the time of the daughter's marriage?

4.5a Gold

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5b Silver

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5c Land

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5d Car

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5e Scooter or motorcycle

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5f TV

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5g Fridge

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5h Furniture

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5i Pressure cooker

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5j Utensils

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5k Mixer or Grinder

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5l Bedding / mattress

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5m Watch

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5n Bicycle

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5o Sewing machine

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5p Livestock such as cows, buffalo, chicken, or pigs

Rarely/Never=0  
Sometimes=1  
Usually=2

4.5q Tractor

Rarely/Never=0  
Sometimes=1  
Usually=2

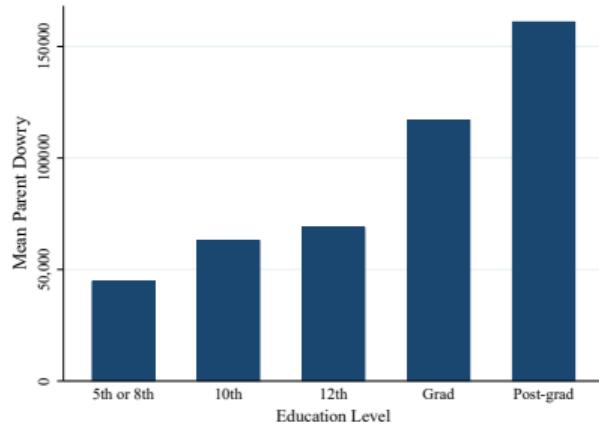
4.5r Cash

Rarely/Never=0  
Sometimes=1  
Usually=2

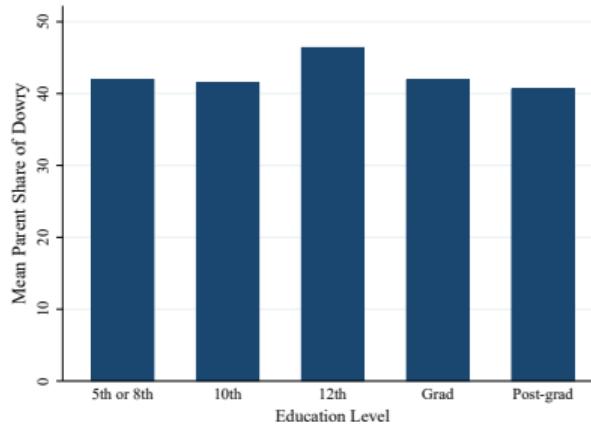
[IF CASH] How much?

4.5 RUPEES      MP5a

# Parents' ownership of dowry by groom's education level



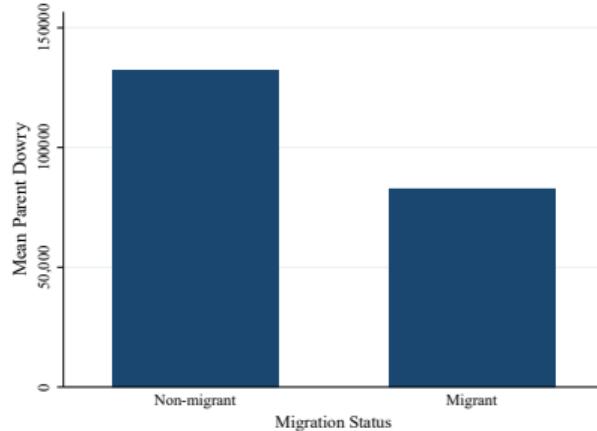
(a) Total Dowry



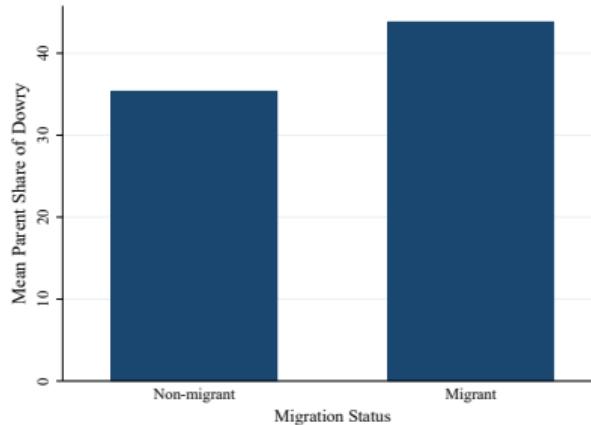
(b) Proportion of Dowry

Data Source: Destination Survey

# Parents' ownership of dowry by groom's migration status



(a) Total Dowry



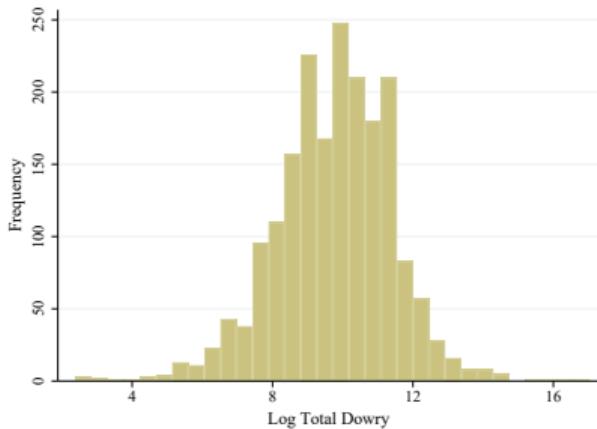
(b) Proportion of Dowry

Data Source: Destination Survey

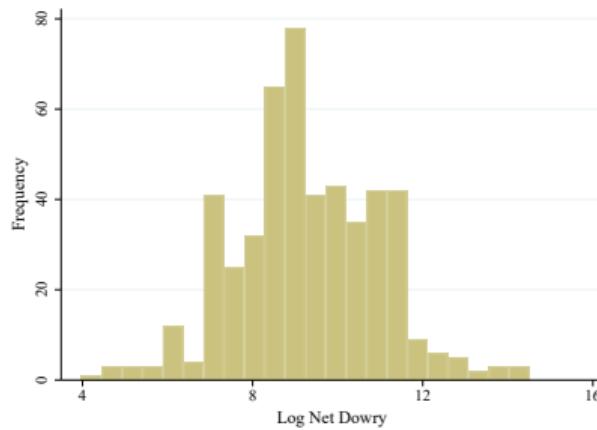
## Measuring dowry accurately

- A handful of cases of high education men who the surveyors do not think are honest
- However, people mostly answered the questions straightforwardly
- Key is that we don't ask about dowry explicitly, but rather ask about gifts and ownership
- At the end: let's discuss concerns about desirability bias (Dhar, Jain and Jayachandran 2018)

# Distribution of dowry



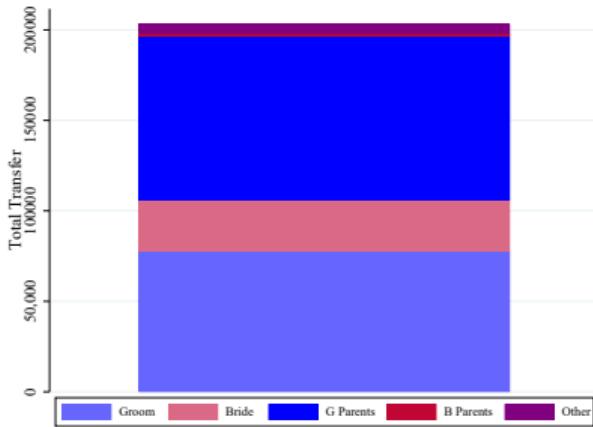
(c) Log Total Dowry



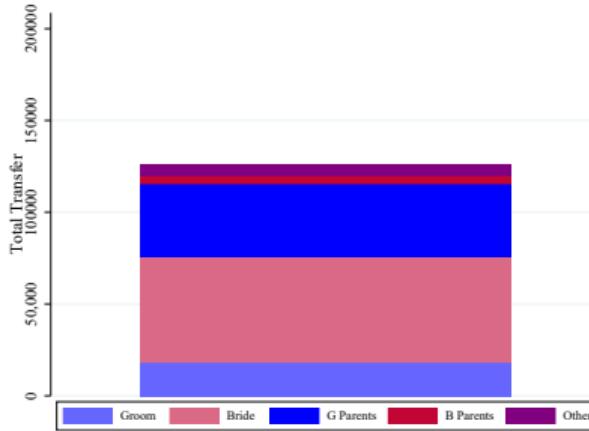
(d) Log Net Dowry

Data Source: Origin Survey

# Who takes?



(a) Transfer from Bride Parents

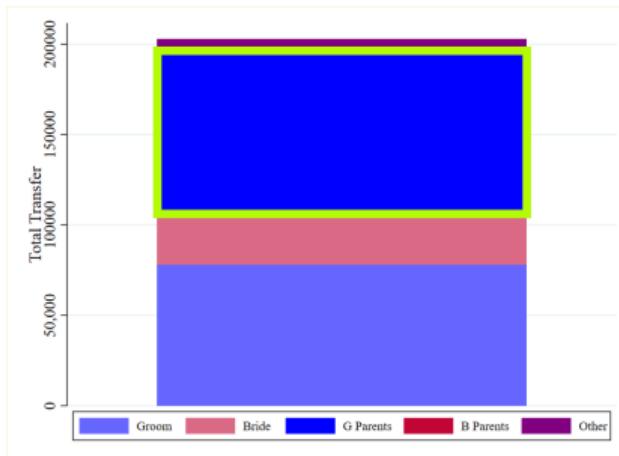


(b) Transfer from Groom Parents

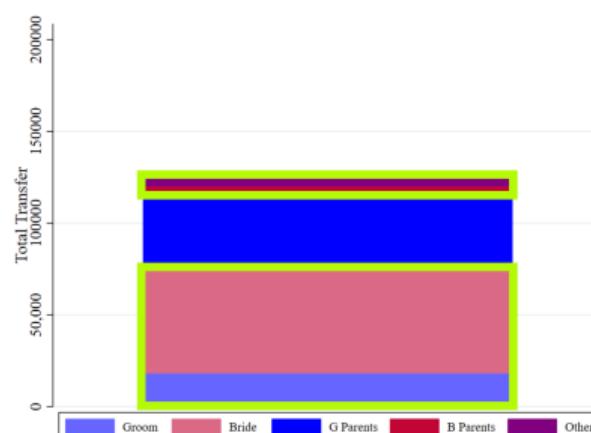
Data Source: Destination Survey

## Net transfers with groom's parents

- Net transfer with groom's parents
  - = Gross transfer from bride's parents to groom's parents
  - + Gross transfer from groom's parents to themselves
  - Gross transfer from groom's parents



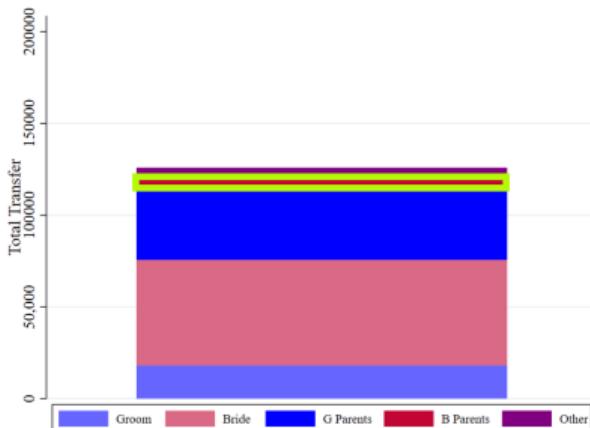
(a) Transfer from Bride's Parents



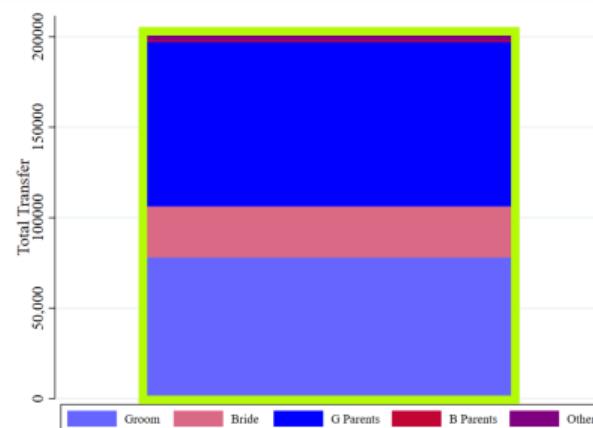
(b) Transfer from Groom's Parents

## Net transfer with bride's parents

- Net transfer with bride's parents
  - = Gross transfer from groom's parents to bride's parents
  - + Gross transfer from bride's parents to themselves
  - Gross transfer from bride's parents



(a) Transfer from Groom's Parents



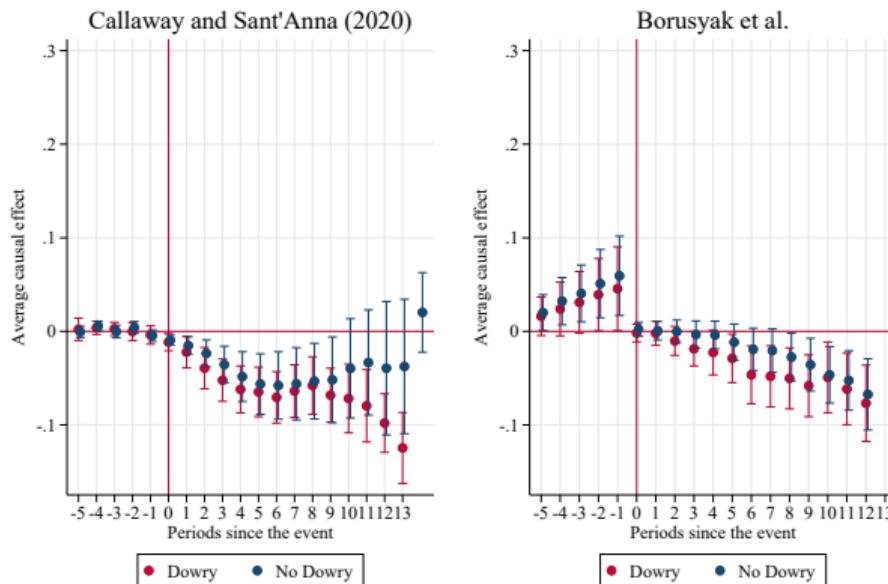
(b) Transfer from Bride's Parents

# Time Trends

|                       | Origin Survey:                 |                              |                                 |                                 | Destination Survey:            |                              |                                 |                                 |
|-----------------------|--------------------------------|------------------------------|---------------------------------|---------------------------------|--------------------------------|------------------------------|---------------------------------|---------------------------------|
|                       | (1)<br>Gross<br>dowry<br>(IHS) | (2)<br>Net<br>dowry<br>(IHS) | (3)<br>Parents<br>net<br>takers | (4)<br>Amount<br>taken<br>(IHS) | (5)<br>Gross<br>dowry<br>(IHS) | (6)<br>Net<br>dowry<br>(IHS) | (7)<br>Parents<br>net<br>takers | (8)<br>Amount<br>taken<br>(IHS) |
| Year of marriage      | 0.036<br>(0.008)<br>[0.000]    | 0.053<br>(0.021)<br>[0.011]  | -0.000<br>(0.002)<br>[0.985]    | 0.009<br>(0.021)<br>[0.656]     | 0.058<br>(0.013)<br>[0.000]    | 0.127<br>(0.047)<br>[0.007]  | 0.013<br>(0.004)<br>[0.000]     | 0.163<br>(0.050)<br>[0.001]     |
| Education dummies     | Yes                            | Yes                          | Yes                             | Yes                             | Yes                            | Yes                          | Yes                             | Yes                             |
| Mean of dep. variable | 5.385                          | 0.432                        | 0.293                           | -1.653                          | 7.298                          | 3.042                        | 0.447                           | -0.293                          |
| Adjusted R-squared    | 0.047                          | 0.007                        | 0.006                           | 0.003                           | 0.074                          | 0.021                        | 0.007                           | -0.001                          |
| Observations          | 2132                           | 2040                         | 1698                            | 1698                            | 557                            | 557                          | 557                             | 557                             |

# Effects of GQ on Emigration by Dowry Status

Males 23-45



Data Source: NSS 2007

Males 13-22

## Share of Dowry by District

