Marriage, Work and Migration: The Role of Infrastructure Development and Gender Norms

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Motivation

- Early stages of development characterised by rural-urban migration & shift from farm to non-farm employment
- Relatively little is known about drivers of *female long-distance migration* in a developing economy
- 2 observations:
  - prevailing gender norms may limit female mobility, *independent* migration and, thus, limit access to urban jobs;
  - marriage is an important means of female long-distance migration in patrilocal societies (Rosenzweig and Stark 1989)

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  - marriage is an important means of female long-distance migration in patrilocal societies (Rosenzweig and Stark 1989)
- thus marriage markets may provide – and be shaped by – opportunities for women in urban areas
  - a way to bypass restrictive gender norms...
- Research Qn: How does a reduction in rural-urban migration costs affect migration, marriage, work, and human capital *of women*?

Motivation cont'd.

- To explore these issues, we use the event of the construction of a major bridge in Bangladesh as a plausibly exogenous variation in migration costs:
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  - restrictive gender norms will prevent $\uparrow$ female *economic* migration to urban areas,

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  - reduced travel times between the economically deprived north-western region and the industrial belt around the capital Dhaka
- Hypotheses post bridge construction :
  - restrictive gender norms will prevent $\uparrow$ female *economic* migration to urban areas,
  - male (economic) migration $\uparrow$
  - increase the value of such men on the marriage market
  - lead to increased matches between migrating men and women better able to afford the higher price (dowry) for such men

Roadmap

- Literature
- Background and study context
- Theory
- Empirical Strategy
- Data
- Results
- Conclusion

Literature: Road and Transport Infrastructure

- Effect of construction of feeder roads
  - Asher & Novosad 2018; Adukia, Asher & Novosad 2016 (India)
    - 10% reduction in households/workers in agriculture, effect concentrated among males
    - positive effects on school enrollment
  - Khandker, Bakht, Koolwal 2009; Khandker & Koolwal 2011 (Bangladesh)
    - wage growth, in agriculture or non-agriculture, depending on the area, poverty reduction (3-6%)
    - $\uparrow$ school enrollment for boys and girls at secondary level
    - affects attenuated over time
- Effects of major transport infrastructure (rail and road networks, bridges)
  - Donaldson & Hornbeck 2016 (USA); Donaldson 2018 (India); Banerjee, Duflo & Qian 2012 (China);
  - Morten & Oliveira 2014 (Brazil); Bird & Straub 2014 (Brazil).
  - Brooks & Donavan 2017 (Nicaragua); Blankespoor et al 2018 (Bangladesh)

Literature: Marriage, Migration and Female Employment

- Bryan, Chowdhury and Mobarak (2014, Econometrica)
  - how do poor households in north-western Bangladesh respond to financial incentives for seasonal migration
- Heath and Mobarak (2015, JDE)
  - how the growth of female manufacturing jobs around Dhaka affected marriage, education & employment of women in nearby villages
- Rosenzweig and Stark (1989, JPE)
  - female marriage-migration decisions in India formed part of a risk-sharing strategy between bride-sending and bride-receiving households
- Our focus is on permanent, long-distance, rural-urban female migration, in a dynamic economy with expanding opportunities for female employment in manufacturing, and growing integration between the capital and an impoverished region.

Literature: Social and Economic Impact of Jamuna Bridge

- Mahmud and Sawada (2014)
  - DID using districts adjacent to bridge
  - decrease in household unemployment and shift from farm to non-farm employment
- Blankespoor, Emran, Shilpi and Xu (2018)
  - treat Jamuna Bridge as a reduction in trade costs
  - use south-western Bangladesh as a control group
  - effect of Jamuna Bridge on economic activities in north-western Bangladsh (population density, intersectoral labour allocation, agricultural productivity)
    - document shifts from agriculture to services, eventual deindustrialization (C-P), positive effects on night lights, agri yields, etc

Study Context: Female Work Participation in Bangladesh

- Sharp declines in fertility since the 1970s (BDHS: decline in TFR from 7.3 in 1975 to 2.3 in 2011);
- Rise in female schooling since the 1990s (WiLCAS: average of 3.5 yrs of schooling for cohort born in 1975 and over 6 yrs for cohort born in 1994);
- By contrast, low female paid work participation (WiLCAS: 10% in 2014 for women born between 1975 and 1994);
- A quarter of the gender gap in paid work participation can be explained by female seclusion norms (Asadullah and Wahhaj, 2016).

Study Context: Female Mobility, Short Distance

Table: Female Mobility: Autonomy to go outside of the home

Purpose of Travel:	Visit Friends or Family outside the Community	Hat Bazaar (Market)	Hospital or Doctor	Training for NGO Programmes
Need to ask permission (%)	66.2	76.3	67.7	88.5
In case of objection:				
Companion Required (%)	75.8	71.5	71.4	63.1
Purdah Required (%)	21.2	22.8	24.3	28.0

Source: 2014 WiLCAS

Female mobility outside of the home is limited, and conditional upon the presence of a chaperon or use of purdah.

Study Context: Female Mobility, Long Distance

Table: Migration among Women Aged 20-39 years

	Married Women		Unmarried Women	
# of Episodes	Economic Migration (%)	Family-related Migration (%)	Economic Migration (%)	Family-related Migration (%)
0	**88.58**	16.98	74.40	**88.80**
1	9.75	**78.30**	**23.47**	9.87
2	1.46	3.93	2.13	1.33
3	0.19	0.65	0	0
4	0.02	0.15	0	0
# Obs	5,885	5,885	375	375

Source: 2014 WiLCAS

Note: A 'migration episode' means moving, at least, out of the village/ward for a period of 6 months or more.

The majority of women experience exactly one migration episode in their lives, typically at the time of marriage.

Study Context: Jamuna Bridge

- Largest ever infrastructure development project in Bangladesh
- Provides road and rail-links between north-western and eastern parts of the country
- Site selected primarily for engineering rather than economic reasons (Mahmud and Sawada 2014)
- Construction began in October 1994, and completed in 1998
- Reduced journey time between Dhaka and north-western Bangladesh
  - e.g. travel time to/from Bogra reduced from 12-36 hours (traffic jams at ferry terminals) to 4 hours (Ahmed et al, 2003)
  - expect this to lead to an increase in *permanent* migration...

Jamuna Bridge Location

Ferry Crossings over the Jamuna River

Ferry Crossings over the Jamuna River

Theoretical Model (summary)

- Two-sector model of migration (Harris-Todaro, 1970) with
  - male and female workers and a marriage market
  - partial sharing of joint-income within marriage
  - restrictive gender norms: women cannot migrate to the city on their own or participate in rural labour market
- As the cost of migration $\downarrow$
  - more men wish to migrate
  - women wish to match with these men (husband's income and their income $\uparrow$)
  - only rich women can pay for the privilege of matching with the male migrants
    - dowry plays a market clearing role

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- Predictions from the model:
  - *Increased marriage-related migration to urban areas* for women from better-off families
  - *Increased urban labour force participation* for rich women
  - no changes for women from poor families

Identification Strategy

Difference-in-Differences

- We exploit the location of the bridge and the timing of bridge construction
- Difference-in-Differences:
  - compare outcomes for women
    - between areas affected by the bridge (i.e. Rajshahi and Rangpur, divisions that the bridge connects to Dhaka) vs areas unaffected by the bridge, and
    - between cohorts who came of age before vs after bridge construction
- Main identification assumption:
  - outcomes in areas affected by the Jamuna Bridge were on a common trend with those that weren't
  - so that any deviations from the trend (post 1998) are due to the bridge

Econometric Specification

Linear Probability Model:

$$y_{irc} = \mathbf{X}_{irc}\beta + \gamma Post_c + \delta JM_r + \theta(Post_c \times JM_r) + d_r + \varepsilon_{irc} \quad (1)$$

where

- JM_r: individual born in an area r exposed to the bridge treatment
- $Post_c$: individual belongs to a cohort c exposed to the treatment
- d_r: region fixed-effects
- $\mathbf{X}_{irc}$: individual characteristics, including
  - age, age squared, religion
  - geographic distance from place of birth to manufacturing belt
  - whether reaching capital from place of birth involves river-crossing
  - parental characteristics (edu, landholdings, occupation type)
- standard errors clustered at the sub-district level

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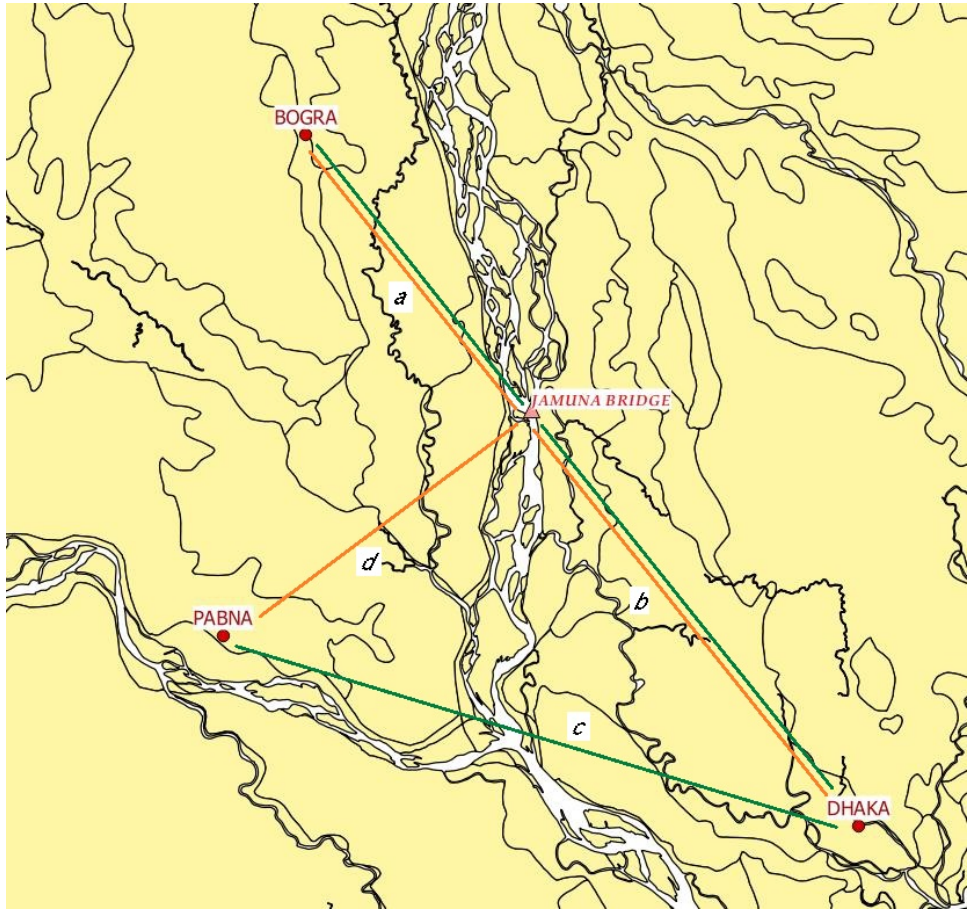
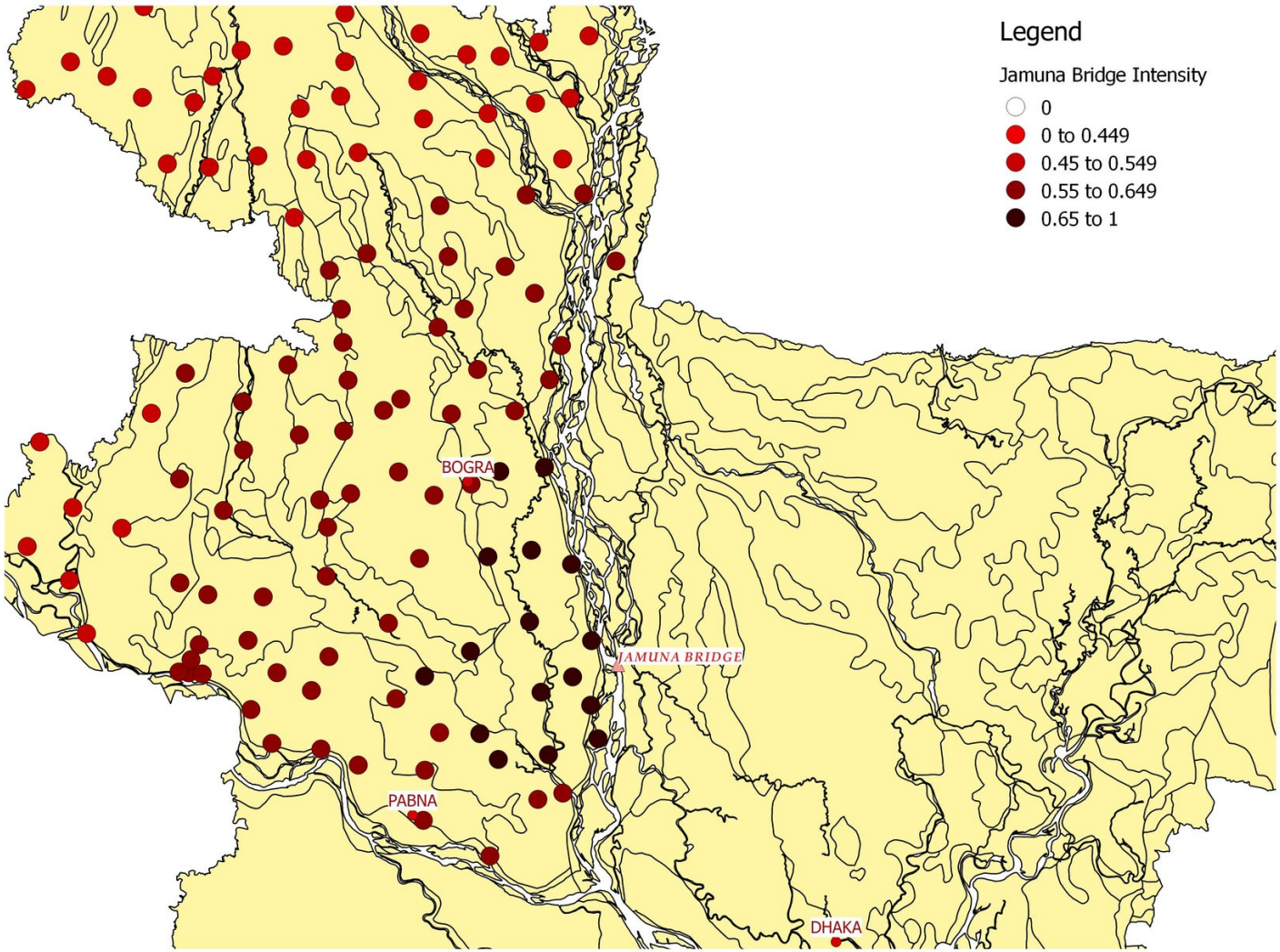
  - whether reaching capital from place of birth involves river-crossing
  - parental characteristics (edu, landholdings, occupation type)
- standard errors clustered at the sub-district level
- Results are robust to
  - replacing JM_r with continuous measure of treatment intensity
  - clustering at the district level
  - region-specific linear time-trends
  - using a Logit model instead of LPM

Measure of Intensity of Treatment



Town	Treatment Intensity
Bogra	$\max\left\{0, 1 - \frac{a+b}{a+b+300}\right\}$
Pabna	$\max\left\{0, 1 - \frac{d+b}{c+300}\right\}$

Measure of Intensity of Treatment



Data: Women's Life Choices and Attitudes Survey

- Bangladesh Women's Life Choices and Attitudes Survey (WiLCAS) 2014 – purposely designed survey funded by Australian Aid
  - includes a nationally representative sample of 6,293 women born between 1975 and 1994
  - information on place of birth, parental background and major life decisions including schooling, economic participation, etc.
  - full migration history, including geocoded data on where they were located at any point in time since birth to 2014
  - marriage history, including timing and terms of marriage, and characteristics of husband at time of marriage.

Characteristics of Female Economic Migrants

WiLCAS Data: Summary Statistics (1)

	count	mean	sd	min	p50	max
age	6237	29.003	5.575	20	29	39
education	6237	5.267	3.794	0	5	12
muslim	6237	0.884	0.320	0	1	1
father educ	6237	2.953	3.873	0	0	12
mother educ	6237	1.629	2.787	0	0	12
father land (acres)	6237	1.389	2.752	0	1	60
father landless	6237	0.053	0.225	0	0	1
father low pay	6237	0.215	0.411	0	0	1
RMG work	6237	0.053	0.223	0	0	1
river cross	6237	0.795	0.404	0	1	1
cross Jamuna	6237	0.256	0.436	0	0	1
reside Dhaka	6237	0.141	0.348	0	0	1
marriage mig	6237	0.069	0.253	0	0	1
economic mig	6237	0.053	0.224	0	0	1

WiLCAS Data: Summary Statistics (2)

Marriage-related variables

	count	mean	sd	min	p50	max
same upazila	6237	0.544	0.498	0	1	1
same district	6237	0.728	0.445	0	1	1
husband educ	5866	4.672	4.178	0	5	12
husband age	5726	36.751	7.159	19	36	66
husband from Dhaka	5862	0.059	0.236	0	0	1
husband migr Dhaka	5862	0.040	0.197	0	0	1
ever married	6237	0.940	0.238	0	1	1
married by 15	6237	0.378	0.485	0	0	1
arranged marriage	6237	0.797	0.402	0	1	1
consang marriage	6237	0.078	0.268	0	0	1
own choice marriage	6237	0.068	0.251	0	0	1
forced marriage	6237	0.019	0.137	0	0	1
dowry	6237	0.363	0.481	0	0	1

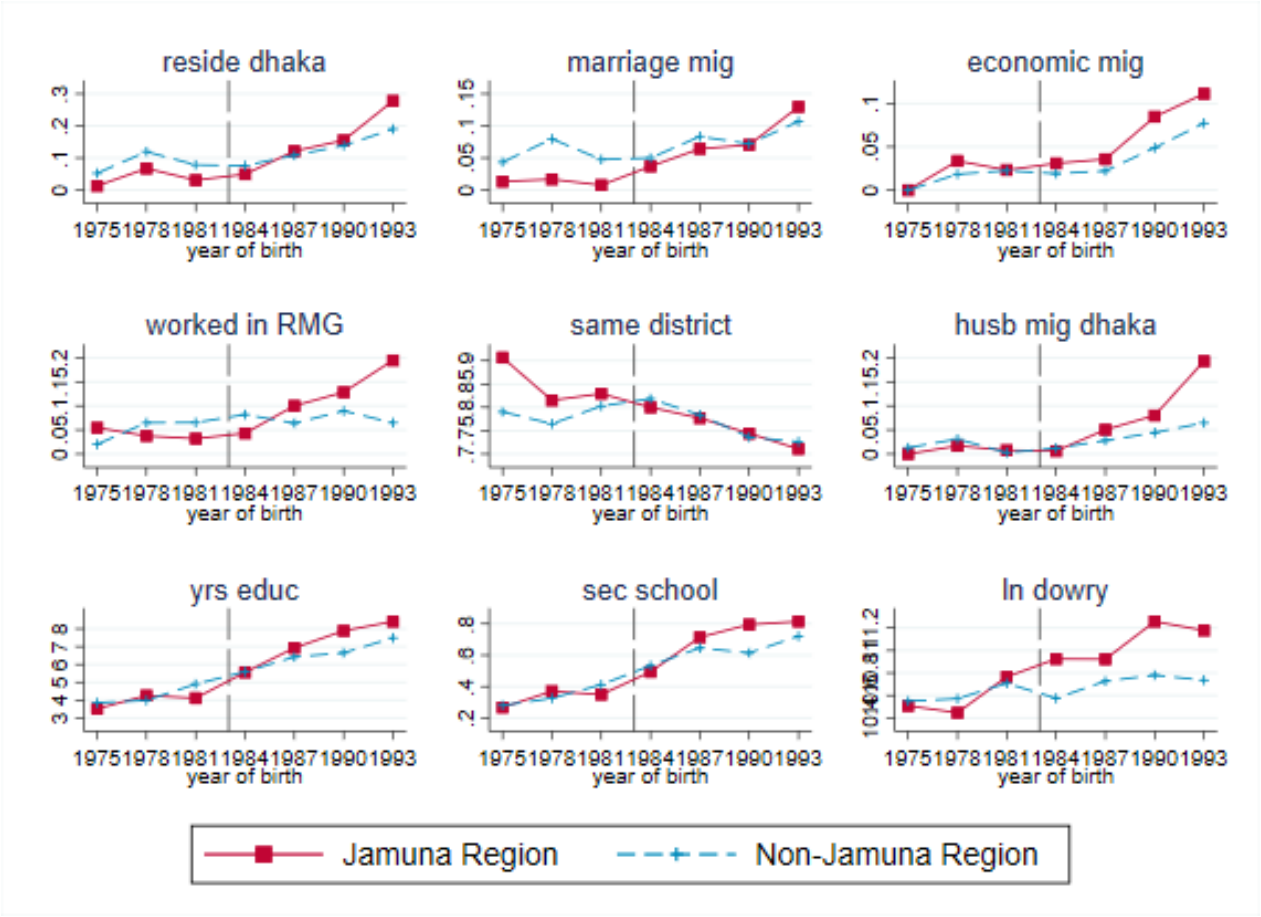
Results

- Recall that our theoretical framework predicts different outcomes for "well-off" versus "poor" women.
- Therefore, in the empirical analysis, we separately estimate the effects of the bridge on these two groups.
- Specifically, we split the sample according to whether the female respondent's parents had
  1. $< 1/2$ acre of cultivable land (46% of sample)
  2. $\geq 1/2$ acre of cultivable land
- We use an age threshold of 16 years in 1998 to define exposed cohorts. (Female median age of marriage: 16.1 years in BDHS 1999).

LPM Results - Graphical Analysis

1) Only including those whose fathers have *more than half an acre*

Figure: Trends in Outcomes in Rajshahi/Rangpur vs Rest of Bangladesh



LPM Results: Migration

1) Only including those whose fathers have more than half an acre

Table: Migration Outcomes

	(1) reside dhaka	(2) reside dhaka	(3) marriage mig	(4) marriage mig	(5) economic mig	(6) economic mig	(7) migr dhaka	(8) migr dhaka
JM bridge X post	0.055**		0.036**		0.014		0.050**	
	(0.021)		(0.015)		(0.015)		(0.021)	
JM bridge		0.107***		0.073***		0.026		0.098***
(intensity) X post		(0.037)		(0.026)		(0.026)		(0.037)
JM bridge		-0.321		-0.665***		0.289		-0.300
(intensity)		(0.341)		(0.233)		(0.178)		(0.277)
born post 1982	-0.046**	-0.048**	-0.013	-0.014	-0.026**	-0.026**	-0.035**	-0.037**
	(0.019)	(0.019)	(0.013)	(0.013)	(0.011)	(0.011)	(0.016)	(0.016)
dist to RMG (10km)	-0.012***	-0.013***	-0.008***	-0.010***	-0.002*	-0.001	-0.009***	-0.010***
	(0.002)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
river cross	-0.226***	-0.226***	-0.138***	-0.138***	-0.032*	-0.032*	-0.158***	-0.158***
	(0.044)	(0.044)	(0.031)	(0.031)	(0.018)	(0.018)	(0.037)	(0.037)
age	-0.041***	-0.041***	-0.014*	-0.014*	-0.016**	-0.016**	-0.030***	-0.030***
	(0.011)	(0.011)	(0.008)	(0.008)	(0.006)	(0.006)	(0.010)	(0.010)
age sq	0.001***	0.001***	0.000	0.000	0.000*	0.000*	0.000**	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	1.224***	1.232***	0.499***	0.515***	0.477***	0.470***	0.935***	0.943***
	(0.166)	(0.166)	(0.121)	(0.122)	(0.106)	(0.107)	(0.152)	(0.153)
Observations	3355	3355	3355	3355	3355	3355	3355	3355

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

Logit Results

LPM Results: Work

1) Only including those whose fathers have more than half an acre

Table: Work Outcomes

	(1) worked in RMG	(2) worked in RMG
JM bridge X post	0.047**	
	(0.023)	
JM bridge (intensity) X post		0.080*
		(0.041)
JM bridge (intensity)		0.139
		(0.295)
born post 1982	-0.005	-0.005
	(0.021)	(0.021)
dist to RMG (10km)	-0.000	0.001
	(0.002)	(0.002)
river cross	-0.057**	-0.057**
	(0.026)	(0.026)
age	-0.001	-0.001
	(0.012)	(0.012)
age sq	-0.000	-0.000
	(0.000)	(0.000)
Constant	0.285	0.278
	(0.180)	(0.180)
Observations	2119	2119

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

LPM Results: Marriage

1) Only including those whose fathers have more than half an acre

Table: Marriage Outcomes

	(1) same district	(2) same district	(3) husb dhaka	(4) husb dhaka	(5) husb mig dhaka	(6) husb mig dhaka
JM bridge X post	-0.062*		-0.003		0.038***	
	(0.033)		(0.012)		(0.014)	
JM bridge		-0.095		0.001		0.067***
(intensity) X post		(0.059)		(0.022)		(0.024)
JM bridge		-0.460		-0.989***		0.052
(intensity)		(0.474)		(0.254)		(0.161)
born post 1982	0.039	0.037	-0.021	-0.022	-0.019*	-0.019*
	(0.028)	(0.028)	(0.015)	(0.015)	(0.010)	(0.010)
dist to RMG (10km)	-0.001	-0.003	-0.010***	-0.013***	-0.001	-0.001
	(0.002)	(0.003)	(0.002)	(0.003)	(0.001)	(0.001)
river cross	0.023	0.023	-0.192***	-0.193***	-0.029***	-0.029***
	(0.038)	(0.038)	(0.042)	(0.041)	(0.011)	(0.011)
age	0.034**	0.034**	0.008	0.008	-0.032***	-0.032***
	(0.016)	(0.016)	(0.007)	(0.007)	(0.008)	(0.008)
age sq	-0.000*	-0.000*	-0.000	-0.000	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.140	0.153	0.198*	0.222**	0.651***	0.649***
	(0.245)	(0.246)	(0.111)	(0.112)	(0.130)	(0.130)
Observations	3181	3181	3181	3181	3181	3181

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

LPM Results: Dowry

1) Only including those whose fathers have more than half an acre

Table: Dowry Outcomes

	(1) dowry	(2) dowry	(3) ln real dowry	(4) ln real dowry
JM bridge X post	-0.037		0.279**	
	(0.039)		(0.115)	
JM bridge (intensity) X post		-0.078		0.498**
		(0.069)		(0.192)
JM bridge (intensity)		0.788**		-2.365*
		(0.400)		(1.322)
born post 1982	0.004	0.005	-0.231*	-0.235*
	(0.033)	(0.033)	(0.122)	(0.122)
dist to RMG (10km)	-0.006**	-0.003	0.004	-0.007
	(0.002)	(0.003)	(0.008)	(0.012)
river cross	-0.006	-0.006	-0.013	-0.016
	(0.045)	(0.045)	(0.141)	(0.138)
age	0.040**	0.040**	0.039	0.040
	(0.016)	(0.017)	(0.061)	(0.061)
age sq	-0.001**	-0.001**	-0.001	-0.001
	(0.000)	(0.000)	(0.001)	(0.001)
Constant	-0.069	-0.088	10.063***	10.146***
	(0.241)	(0.242)	(0.919)	(0.920)
Observations	3181	3181	1212	1212

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

Including only respondents with positive dowry amounts

LPM Results: Education

1) Only including those whose fathers have more than half an acre

Table: Education Outcomes

	(1) yrs educ	(2) yrs educ	(3) yrs educ	(4) yrs educ	(5) sec_school	(6) sec_school	(7) sec_school	(8) sec_school
JM bridge X post	0.770**				0.064*			
	(0.309)				(0.038)			
JM bridge (intensity) X post		1.306**				0.111*		
		(0.544)				(0.066)		
JM bridge X post (10 yrs)			1.050***				0.140***	
			(0.271)				(0.036)	
JM bridge (intensity) X post (10 yrs)				1.856***				0.246***
				(0.472)				(0.061)
JM bridge (intensity)		-12.233***		-11.843***		-1.388***		-1.396***
		(2.886)		(2.998)		(0.396)		(0.415)
born post 1982	0.034	0.044			0.050	0.051		
	(0.266)	(0.265)			(0.036)	(0.036)		
born post 1987			-0.587**	-0.599**			-0.074**	-0.076**
			(0.252)	(0.252)			(0.037)	(0.037)
dist to RMG (10km)	-0.009	-0.048**	-0.010	-0.048**	0.000	-0.004	0.000	-0.004
	(0.018)	(0.019)	(0.018)	(0.020)	(0.002)	(0.003)	(0.002)	(0.003)
river cross	0.693***	0.689***	0.685***	0.681***	0.089**	0.089**	0.089**	0.088**
	(0.212)	(0.210)	(0.214)	(0.213)	(0.036)	(0.036)	(0.036)	(0.036)
age	-0.272**	-0.270**	-0.358***	-0.358***	-0.019	-0.019	-0.025	-0.025
	(0.112)	(0.112)	(0.132)	(0.131)	(0.015)	(0.015)	(0.019)	(0.019)
age sq	0.001	0.001	0.002	0.002	-0.000	-0.000	-0.000	-0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	10.392***	10.666***	12.433***	12.754***	0.850***	0.882***	1.093***	1.131***
	(1.606)	(1.599)	(2.125)	(2.112)	(0.218)	(0.218)	(0.315)	(0.314)
Observations	3355	3355	3355	3355	3355	3355	3355	3355

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

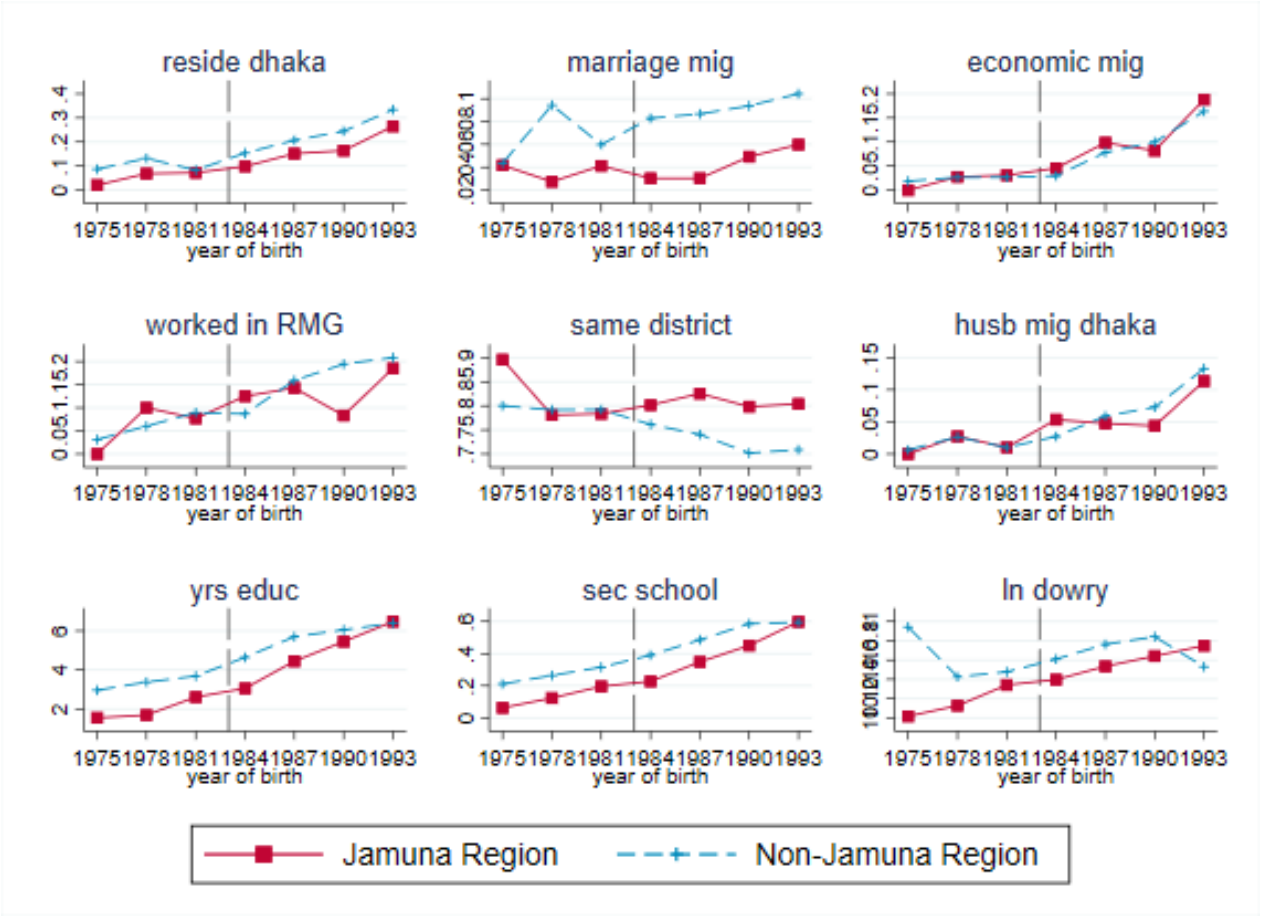
Robust standard errors clustered by subdistrict in parentheses

Logit Results

LPM Results - Graphical Analysis

2) Only including those whose fathers have less than half an acre

Figure: Trends in Outcomes in Rajshahi/Rangpur vs Rest of Bangladesh



LPM Results: Migration

2) Only including those whose fathers have less than half an acre

Table: Migration Outcomes

	(1) reside dhaka	(2) reside dhaka	(3) marriage mig	(4) marriage mig	(5) economic mig	(6) economic mig	(7) migr dhaka	(8) migr dhaka
JM bridge X post	-0.014		-0.014		0.017		0.007	
	(0.027)		(0.020)		(0.019)		(0.025)	
JM bridge		-0.003		-0.009		0.031		0.029
(intensity) X post		(0.045)		(0.033)		(0.032)		(0.042)
JM bridge		-0.642*		-0.495***		0.253		-0.322
(intensity)		(0.372)		(0.186)		(0.218)		(0.290)
born post 1982	0.025	0.021	-0.004	-0.007	-0.017	-0.017	-0.023	-0.026
	(0.022)	(0.022)	(0.020)	(0.020)	(0.014)	(0.014)	(0.022)	(0.022)
dist to RMG (10km)	-0.010***	-0.012***	-0.005***	-0.007***	0.000	0.001	-0.006***	-0.006***
	(0.002)	(0.003)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
river cross	-0.238***	-0.237***	-0.124***	-0.123***	-0.022	-0.022	-0.132***	-0.132***
	(0.056)	(0.055)	(0.040)	(0.040)	(0.033)	(0.033)	(0.047)	(0.047)
age	-0.064***	-0.065***	-0.002	-0.003	-0.043***	-0.043***	-0.050***	-0.051***
	(0.013)	(0.013)	(0.009)	(0.009)	(0.010)	(0.010)	(0.012)	(0.012)
age sq	0.001***	0.001***	0.000	0.000	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	1.555***	1.578***	0.319**	0.337**	0.879***	0.870***	1.250***	1.262***
	(0.188)	(0.188)	(0.130)	(0.130)	(0.149)	(0.149)	(0.175)	(0.176)
Observations	2903	2903	2903	2903	2903	2903	2903	2903

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

Logit Results

LPM Results: Work

2) Only including those whose fathers have less than half an acre

Table: Work Outcomes

	(1) worked in RMG	(2) worked in RMG
JM bridge X post	-0.023	
	(0.036)	
JM bridge		-0.041
(intensity) X post		(0.061)
JM bridge		0.449
(intensity)		(0.364)
born post 1982	-0.001	-0.001
	(0.030)	(0.030)
dist to RMG (10km)	-0.000	0.001
	(0.002)	(0.002)
river cross	0.011	0.010
	(0.049)	(0.049)
age	-0.022	-0.022
	(0.016)	(0.016)
age sq	0.000	0.000
	(0.000)	(0.000)
Constant	0.661***	0.647***
	(0.244)	(0.246)
Observations	1645	1645

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

LPM Results: Marriage

2) Only including those whose fathers have less than half an acre

Table: Marriage Outcomes

	(1) same district	(2) same district	(3) husb dhaka	(4) husb dhaka	(5) husb mig dhaka	(6) husb mig dhaka
JM bridge X post	0.063		-0.018		-0.003	
	(0.039)		(0.013)		(0.015)	
JM bridge		0.118*		-0.014		-0.006
(intensity) X post		(0.067)		(0.021)		(0.026)
JM bridge		0.056		-1.027***		0.250
(intensity)		(0.439)		(0.252)		(0.186)
born post 1982	-0.002	-0.003	0.018	0.015	0.008	0.009
	(0.033)	(0.033)	(0.018)	(0.018)	(0.012)	(0.012)
dist to RMG (10km)	0.005**	0.006*	-0.010***	-0.013***	-0.000	0.000
	(0.002)	(0.003)	(0.002)	(0.003)	(0.001)	(0.001)
river cross	0.016	0.016	-0.276***	-0.274***	-0.002	-0.002
	(0.058)	(0.058)	(0.044)	(0.044)	(0.029)	(0.029)
age	0.000	0.000	0.018**	0.018**	-0.039***	-0.039***
	(0.016)	(0.016)	(0.008)	(0.008)	(0.010)	(0.010)
age sq	0.000	0.000	-0.000**	-0.000**	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.557**	0.554**	0.060	0.091	0.726***	0.719***
	(0.229)	(0.231)	(0.111)	(0.111)	(0.158)	(0.158)
Observations	2702	2702	2702	2702	2702	2702

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

LPM Results: Dowry

2) Only including those whose fathers have less than half an acre

Table: Dowry Outcomes

	(1) dowry	(2) dowry	(3) ln real dowry	(4) ln real dowry
JM bridge X post	0.146***		0.195	
	(0.049)		(0.121)	
JM bridge (intensity) X post		0.220***		0.311
		(0.083)		(0.211)
JM bridge (intensity)		1.249**		-3.013**
		(0.507)		(1.191)
born post 1982	-0.071*	-0.064	0.096	0.090
	(0.039)	(0.039)	(0.133)	(0.132)
dist to RMG (10km)	0.001	0.005*	-0.008	-0.019**
	(0.003)	(0.003)	(0.007)	(0.009)
river cross	-0.088*	-0.090*	-0.156	-0.154
	(0.051)	(0.051)	(0.145)	(0.142)
age	0.065***	0.066***	-0.035	-0.037
	(0.018)	(0.018)	(0.064)	(0.064)
age sq	-0.001***	-0.001***	0.000	0.000
	(0.000)	(0.000)	(0.001)	(0.001)
Constant	-0.339	-0.381	11.211***	11.343***
	(0.251)	(0.252)	(0.806)	(0.816)
Observations	2702	2702	1044	1044

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Robust standard errors clustered by subdistrict in parentheses

Including only respondents with positive dowry amounts

LPM Results: Education

2) Only including those whose fathers have less than half an acre

Table: Education Outcomes

	(1) yrs educ	(2) yrs educ	(3) yrs educ	(4) yrs educ	(5) sec_school	(6) sec_school	(7) sec_school	(8) sec_school
JM bridge X post	0.398				0.009			
	(0.289)				(0.035)			
JM bridge		0.885*				0.041		
(intensity) X post		(0.513)				(0.062)		
JM bridge X post			0.985***				0.053	
(10 yrs)			(0.280)				(0.038)	
JM bridge				1.795***				0.103
(intensity) X post (10 yrs)				(0.494)				(0.067)
JM bridge		-12.218***		-12.502***		-1.640***		-1.656***
(intensity)		(3.004)		(2.937)		(0.397)		(0.387)
born post 1982	0.190	0.152			-0.015	-0.020		
	(0.277)	(0.277)			(0.037)	(0.037)		
born post 1987			-0.223	-0.257			0.016	0.012
			(0.261)	(0.261)			(0.039)	(0.039)
dist to RMG (10km)	-0.032*	-0.066***	-0.032*	-0.067***	-0.005**	-0.010***	-0.005**	-0.010***
	(0.019)	(0.022)	(0.019)	(0.022)	(0.002)	(0.003)	(0.002)	(0.003)
river cross	0.896**	0.912**	0.874**	0.890**	0.101**	0.103**	0.100**	0.103**
	(0.368)	(0.364)	(0.365)	(0.362)	(0.042)	(0.042)	(0.042)	(0.041)
age	-0.250**	-0.260**	-0.193	-0.210	-0.029*	-0.030*	-0.020	-0.023
	(0.127)	(0.126)	(0.145)	(0.144)	(0.017)	(0.017)	(0.021)	(0.020)
age sq	0.001	0.001	-0.001	-0.000	0.000	0.000	-0.000	0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	10.753***	11.150***	10.464***	10.974***	1.146***	1.201***	0.972***	1.045***
	(1.718)	(1.711)	(2.264)	(2.258)	(0.237)	(0.236)	(0.332)	(0.330)
Observations	2903	2903	2903	2903	2903	2903	2903	2903

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robust standard errors clustered by subdistrict in parentheses

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    - increased incidence of dowry marriages (for brides from poorer families) and dowry amounts (for brides from better-off families);
  - increased labour participation in the manufacturing sector (ready-made garments) for women from better-off families but not for women from poorer families;
  - increased years of schooling for all women and also increased secondary schooling for women from better-off families.

Conclusion

- Evidence supports the hypothesis that women are constrained by social norms from migrating to urban areas to take advantage of work-related opportunties;
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Conclusion

- Evidence supports the hypothesis that women are constrained by social norms from migrating to urban areas to take advantage of work-related opportunties;
- But marriage serves as a conduit for long-distance migration, with the implication that growing economic opportunities for women in urban areas affects matching in marriage markets;
- Findings have implications for
  - Efficiency
    - social norms on female mobility act as a labour market friction by preventing some workers from supplying labour;
  - Equity
    - parental wealth determines whether individuals are able to take advantage of work opportunities through the marriage market.

Thank You