Female Migrant-Native Employment Gap in Indonesia: Evidence of a Migrant Bride Penalty?*

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Abstract

We begin by documenting a substantial migrant–native employment gap among married women in Indonesia - despite having similar or higher employment rates before marriage, married female migrants of all ages are significantly less likely to be employed than their native counterparts. In contrast, the migrant–native gap for men goes in the opposite direction. Event-study analysis using longitudinal data from the Indonesia Family Life Survey shows that this divergence emerges immediately after marriage. Using an instrumental-variables approach, we distinguish between two potential explanations for the gap: (i) selective migration of women with lower employability or to less favorable destinations, and (ii) the causal, negative employment effect of migration itself. Our findings indicate that the migrant-bride employment penalty is driven, at least in part, by selection into worse destinations, where heightened housekeeping responsibilities constrain women's ability to search for jobs. Finally, we find limited evidence of compensating benefits or transfers that offset these employment losses, raising questions about the incentives for becoming a migrant bride.

JEL Classification Codes: J12, J16, J61, J21, O15
Keywords: migrant-native employment gap, marriage-related migration, marriage penalty, female employment

*All errors are our own

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1 Introduction

Indonesia is one of Southeast Asia's fastest-growing large economies, with roughly 5% annual GDP growth rate since the 1970's except in a few crisis or pandemic-impacted years (World Bank, 2025a). But this macro-economic success has not translated into equal labor-market gains for women. The female labor-force participation rate has remained stuck around 50% compared with about 80% for men (World Bank, 2025b). Female employment is a central driver of economic development and for Indonesia to realize its full development potential — to widen its labor pool, raise productivity, and foster more inclusive growth — integrating more women into the workforce is crucial.

This study is motivated by an overlooked stylized fact about female employment in Indonesia that could provide insights into ways it could be increased. Figure 1 reports the employment status of internal migrant and native Indonesians by gender and age.[1] At all ages, migrant men are employed at rates equal to or more than native men. In comparison, while migrant and native women have similar employment levels at young ages, employment of migrant females falls significantly below native females in later years of their lives. This observation is consistent across four different representative Indonesian data sets. The question this study seeks to answer is what causes this 'female migrant-native employment gap'? In other words, why are migrant women unable to transition into or continue in the workforce at the same rate as native women in their later years while migrant men work at levels equal or higher than native men?

Early models of family migration often highlighted women's migration as passively 'tied' to their husbands (Sandell, 1977; Mincer, 1978). As a consequence, it was expected to generate penalize women's labor market prospects. Early empirical findings from the United States were consistent with the 'tied mover' theory - household migration and women's employment were usually negatively associated. (Long, 1974; Greenwood, 1975; Duncan and Perrucci, 1976; Lichter, 1983; Maxwell, 1988; Morrison and Lichter, 1988; Jacobsen and Levin, 1997; Boyle et al., 2003). However, the direction of causality was unclear. It is possible that the moves harmed the women's employment preferences and prospects. But it could also be that women with better employment outcomes moved less.

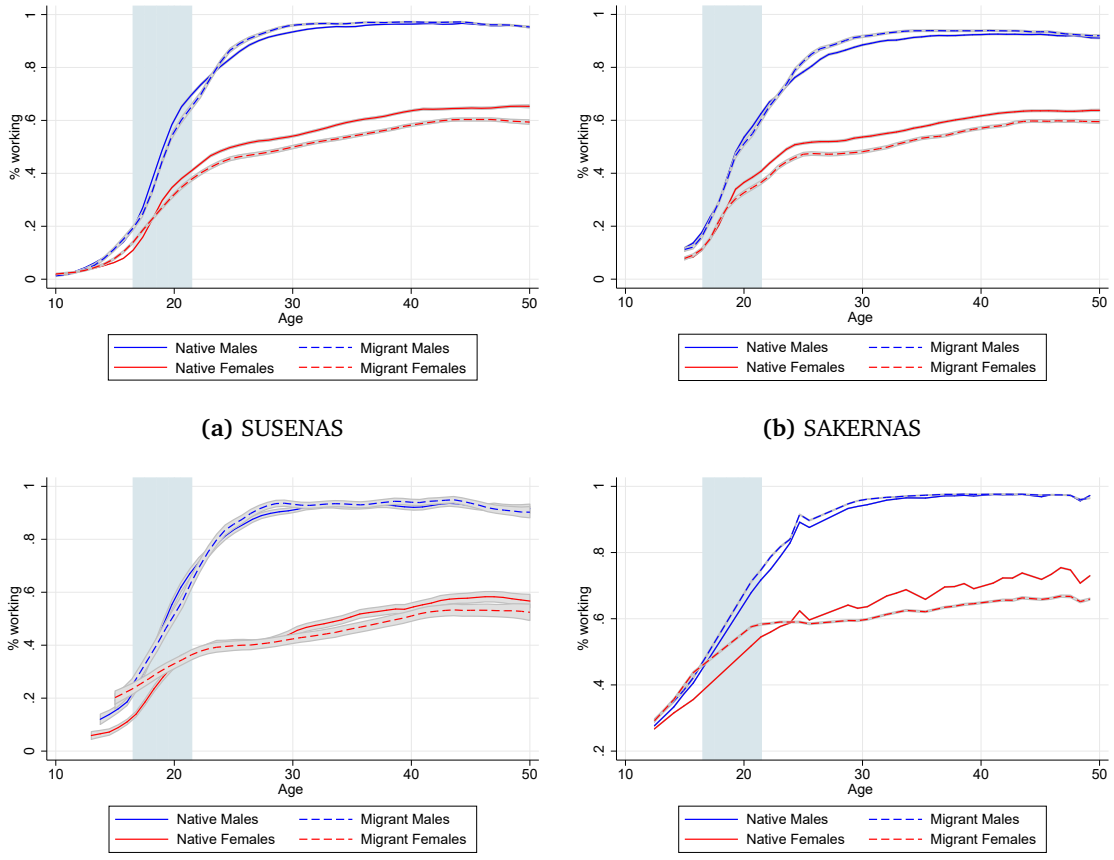
The conventional theories about gender employment gap – including the desirability of jobs available, medical and production technology, discrimination, industry structure, automation, 'engines of liberation', children, availability of childcare, economic development, behavior, perceptions, ethnic diversity and cultural attitudes – are unlikely explanations because they would apply to both migrant and native women.[2] For example, the motherhood penalty accrues to both native and

[1] Survey respondents living in their birth district at the time of a survey are considered natives while those residing in districts other than their birth districts are migrants.

[2] See Duflo (2012) for a review of the conventional theories.

migrant mothers. While recent studies from other contexts have documented that the motherhood penalty is larger for internal migrant and immigrant women, similar to the studies on tied movers, they do not distinguish between whether the larger penalty migrants face is because of their migrant status or if the migrant women in these studies are negatively selected (Lee, Ruppanner and Perales, 2020; Dotti Sani and Molteni, 2024; Kong and Dong, 2024).

Figure 1: Migrant-Native Employment Gap by Gender



(a) SUSENAS **(b)** SAKERNAS

(c) IFLS **(d)** IPC and SUPAS

Sources: Survei Sosial Ekonomi Nasional (SUSENAS) 2011-2023, Survei Angkatan Kerja Nasional (SAKERNAS) 2017-2023, Indonesia Family Life Survey (IFLS) 1993-2014, Population Census (IPC) 1980-2010, and Intercensal Population Survey (SUPAS) 1976-2005.
Notes: The lines are local polynomial fits, with the gray bands denoting 95% confidence intervals. The blue shaded area spans ages starting from the female legal age of marriage before 2019 (16 years) to the median age of marriage for Indonesian women in 2019 (21 years).

We begin by documenting a female migrant-native employment gap that emerges around the time of marriage, suggesting that it may arise from heterogeneous marriage and motherhood penalties faced by natives versus migrants. We use the term *migrant bride penalty* to jointly refer to these mechanisms. Building on this observation and on prior research, we outline several potential explanations for the gap. First, migrant women may enter less favorable marriages than native women. For example, the underlying structure of marriage-market matching may pair migrant women with

husbands (and in-laws) who possess attributes, such as beliefs, income, or fertility preferences, that discourage female labor market participation. Migrant women may also have lower decision-making power over employment at the destination, particularly if they reside with or near their in-laws (Anukriti et al., 2020).[3] Second, the gap may be partly driven by selection into migration (Bryan and Morten, 2019). Migration is an endogenous choice made by optimizing agents; if women who migrate later in life differ systematically, and in ways relevant for employment, from those who do not migrate, the observed gap may simply reflect underlying differences in quality. Third, conditional on migrant quality, the destination itself may shape labor market opportunities. Migrant brides may move to locations where labor markets directly or indirectly (e.g., through limited childcare support) disadvantage female migrants. Finally, consistent with existing studies, marriage-related migration may cause women to lose existing jobs, information advantages, labor market networks, and agency in employment decisions (Jayachandran et al., 2024). There may also be mismatches between their skills and those demanded at the destination. If so, migration could have a direct causal impact on employment.

We begin by confirming the link between marriage, migration, and the employment gap using an event-study framework. Consistent with Figure 1, the event study shows that the employment gap emerges around the time of marriage, highlighting the pivotal role of marriage-related migration. Moreover, correlations between marriage-related migration and proxies for marriage quality suggest that migrant brides do not disproportionately enter lower-quality matches. Next, we use an instrumental variables approach to separate the roles of *selection* and the *direct migration* effect in generating the female migrant–native employment gap.[4] We instrument marriage-related migration using a "migrant bride demand shock." This shock is constructed by summing, across all potential destination districts, the interaction between (i) the difference in the number of newly married native men and women in each district and (ii) the share of past migrant brides from a respondent's origin who were living in those destination districts at the time of the survey. The intuition is that marriages in Indonesia are largely arranged through community networks, so excess demand for brides in districts connected to a woman's birth district via past marriage-migration ties is likely to exert a stronger pull on women of marriageable age. The instrument strongly predicts marriage-related migration among women. Using the predicted levels of marriage-related migration, we show that migration itself does not cause the female migrant–native employment gap. The gap is therefore driven by selective migration rather than by a direct migration penalty.

Next, we argue that if negative selection on women's quality were driving the results, then exogenous increases in the share of migrant brides, which raise the average quality of compliers, should reduce the female migrant–native employment gap. However, we find no evidence of such a re-

[3] Migration and the accompanying exposure to new beliefs may directly alter migrant women's work preferences.

[4] By *selection effect*, we refer to the possibility that the observed gap reflects underlying differences in the "quality" of migrants and non-migrants or the destinations they choose. By *direct migration effect*, we refer to migration itself causing worse employment outcomes, even after accounting for such underlying differences.

duction, even in origin districts with relatively high shares of migrant brides. We interpret this as evidence that selection into worse destinations, rather than lower-quality migrants, drives the gap. We also find that women who select into migration are less likely to be searching for jobs, particularly due to housekeeping responsibilities. Finally, we find no strong evidence of compensating gains—in terms of consumption or subjective well-being—that offset the employment losses experienced by migrant brides. These findings raise the question of why women choose to migrate for marriage despite these apparent costs, which we leave for future research.

Our findings contribute to two related strands of literature. The marriage and motherhood penalties for women's transition out of work, earnings, and career trajectories are well documented.[5] Few studies have highlighted the higher penalties for migrant women.[6] This study adds new evidence to this literature but also differs from existing research in important ways. Previous studies focus primarily on the motherhood penalty and use data from developed countries. The ways in which labor and marriage markets differ between developed and developing countries has consequences for the outcomes of interest. For example, developing countries usually have large informal economies, which makes labor market networks somewhat more important than in developed countries. Also, marriages in developing countries are often 'arranged' by families through their networks and require one or both spouses to relocate a significant distance (Rosenzweig and Stark, 1989). Differences in cultural norms around division of labor within the household are also widely different across contexts, with implications female labor force participation. Moreover, previous studies do not attempt to distinguish between the selection and the migration effect. We believe ours is the first study to document female migrant-native employment gap from developing countries and to examine whether it is the direct result of migration itself. Second, we are unaware of any other study that investigates how migrant women are compensated for the employment costs associated with migration. Bryan and Morten (2019) document that Indonesian men have to be compensated with higher wages to move greater distances from their city of origin. Indonesian females, we find, do not receive much compensation.

More broadly, our findings also add to the studies that explore the reasons behind low and stagnant female labor force participation in Indonesia. Several factors correlate with female employment in Indonesia, all of which are relevant to understanding the employment outcomes of migrant women. Cameron, Malcolm Dowling and Worswick (2001) and Cameron, Suarez and Rowell (2019) find that women's marital status, their educational attainment vis-à-vis their spouse's educational attainment, and the number of children aged 0–2 years in the household are associates of FLFP. Feridhanusetyawan et al. (2001) find that married women and women with more dependent chil-

[5] See Bussolo, Rexer and Triyana (2024), Kalabikhina, Kuznetsova and Zhuravleva (2024) and Kleven, Landais and Leite-Mariante (2025) for recent cross-county evidence.

[6] As mentioned above, there are two groups of studies here - the early findings on employment of 'tied movers' in the US (Long, 1974; Greenwood, 1975; Duncan and Perrucci, 1976; Lichter, 1983; Maxwell, 1988; Morrison and Lichter, 1988; Jacobsen and Levin, 1997; Boyle et al., 2003) and the recent evidence on the higher motherhood penalty for migrant women (Lee, Ruppanner and Perales, 2020; Dotti Sani and Molteni, 2024; Kong and Dong, 2024).

dren are less likely to work. Women are also known to enter the labor market only when the going gets difficult (Fallon and Lucas, 2002; Smith et al., 2002). Schaner and Das (2016) suggest that the relationship between FLFP and education and wealth in Indonesia is U-shaped. Klasen et al. (2021) too documents a U-shaped relationship between education and LFP of urban married Indonesian women. Admittedly, the direction of causality in these studies is unclear. Some exceptions are Priebe et al. (2011), Nguyen (2019), Bharati, Qian and Yun (2019), and Verma and Imelda (2023). Priebe et al. (2011) use the sex composition of a woman's first two children to instrument fertility and find a negative causal effect of a third child on FLFP. Using a similar approach, Nguyen (2019) finds that having a third child reduces FLFP, with the effect being the strongest for women aged 21–35 years. Bharati, Qian and Yun (2019) and Verma and Imelda (2023) show that a fuel subsidy program that reduced the time cost of cooking and improved the health of women also increased FLFP. The effect of domestic migration of Indonesian women on their labor force participation remains relatively unexplored. The study that comes closest is Widarti (1998), which briefly states that married migrant women in Jakarta, especially recent married movers aged 15-24, are less likely to participate in the labor market.

2 Data

Figure 1 uses four nationally representative survey of the Indonesian population. The Survei Sosial Ekonomi Nasional (SUSENAS), or the National Socioeconomic Survey, is one of Indonesia's largest household surveys. Conducted annually by Badan Pusat Statistik (BPS), it collects detailed information on household characteristics, employment, income, expenditures, education, health, housing conditions, and other social and economic indicators for a cross-section of households. The survey began in 1963, evolving over time to improve data collection methodologies and coverage and becoming nationally representative since 1993. The sample size varies across years, but recent rounds of SUSENAS typically include more than 300,000 households. We use thirteen waves of SUSENAS from 2011 to 2023 that includes migration and employment indicators.

The Survei Angkatan Kerja Nasional (SAKERNAS) is Indonesia's National Labor Force Survey. Conducted by BPS since 1976 to monitor employment trends, unemployment rates, and labor force participation, the survey collects data on individual employment status, types of employment, hours worked, wages, and factors influencing workforce engagement. In recent years, the survey has been conducted biannually and the thick rounds in August of each year have included more than 200,000 households. In our analyses, we use six waves of SAKERNAS from 2017 to 2023. For each of these years, the survey had between 500,000 to 800,000 observations respondents. To maintain consistency, we only use the August rounds for our analysis. We also document the female migrant-native employment gap using the Indonesian Population Census (IPC) and Inter-Censal Survey (SUPAS). We use the representative sample of IPCs waves of 1980, 1990, 2000 and 2010, and SUPAS waves of 1976, 1985, 1995 and 2005 from the Integrated Public Use Microdata Series,

International (IPUMS-International).

However, these three surveys are not longitudinal (required for the event study) and lack information on key variables of interest, like bride price and consumption expenditure, that can help us understand why women choose to incur the migrant-bride penalty. The main dataset we use for our analyses is the Indonesian Family Life Survey (IFLS). Conducted by the RAND Corporation in 1993, 1997, 2000, 2007 and 2014, IFLS is an ongoing longitudinal survey that collects data at the household and individual level. The survey is representative of 83 percent of the Indonesian population who lived in 13 of the 27 provinces that existed in 1993 and has notably high re-contact rates, with 87.8 percent of households surveyed in 1993 being successfully tracked in 2014 (Strauss, Witoelar and Sikoki, 2016). In addition to data on basic demographics, employment, income and consumption, marriage, and migration, the survey records female decision-making power within the household and bride price. The migration information collected is impressively detailed, with data on durations of stay and reasons for moving also recorded. We use information from all five waves of the IFLS.

3 Marriage-related migration and the migrant-native employment gap

The raw trend plots in Figure 1 do not distinguish between the employment trends by age and by birth cohort. Although pooling different waves of the respective survey accounts for cohort trend to some extent, it is still possible that the female migrant-native employment gaps at different ages are driven not by age-specific differences but by cohort-specific differences. To account for this possibility, we plot the employment trends conditional on respondents' years of birth fixed effects. The two dotted line in Figure 2 denote the legal age of marriage before 2019 (16 years) and the median age of marriage for Indonesian women in 2019 (21 years), respectively.[7] Again, we find little differences in employment before 19 to 20 years of age but significant differences in later years.

First, note from columns (1) to (2) that unmarried migrant females are more likely to be employed than natives. This difference vanishes when respondent fixed effects are included. Next, married women work less often than unmarried women. Next, for the results reported in Table 2, the specifications include survey wave, residence district, and respondent (or origin district) fixed effects. These fixed effects allow us to control for location- and/or respondent-specific characteristics that could impact both migration decisions and employment outcomes. Consistent with Figure 1, the estimates in columns (1) to (2) suggest that unmarried migrant females are more likely to be employed than natives. But this difference vanishes when respondent fixed effects are included.

[7]The Indonesia's Marriage Act (1974) was revised in 2019 to raise the legal minimum marriage age for females to 19. But most of our data comes from the period before 2019, when the legal minimum marriage age for females was 16.

Table 1: Summary Statistics

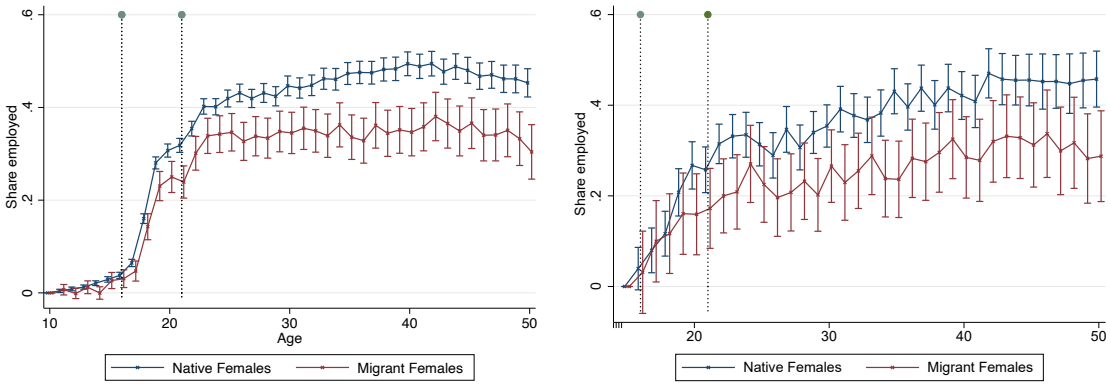
	Native Women		Migrant Women		Diff	Native Men		Migrant Men		Diff
	N	Mean (S.D.)	N	Mean (S.D.)		N	Mean (S.D.)	N	Mean (S.D.)	
					SUSENAS					
Age	5384682	30.03 (20.48)	1310727	35.17 (19.33)	5.15***	5411169	28.59 (19.97)	1323657	35.76 (19.8)	7.18***
Age at first marriage	2962690	20.44 (4.31)	942658	21.29 (4.48)	.84***	1984784	24.64 (4.73)	704858	25.52 (4.76)	.88***
Attended some college	5384682	0.25 (0.44)	1310727	0.39 (0.49)	.13***	5411169	0.28 (0.45)	1323657	0.42 (0.49)	.14***
					SAKERNAS					
Age	1693826	40.19 (16.84)	855099	41.77 (15.71)	1.58***	1653488	39.18 (16.64)	839730	42.29 (15.82)	3.11***
Attended some college	1693826	0.32 (0.47)	855099	0.41 (0.49)	.09***	1653488	0.36 (0.48)	839730	0.45 (0.5)	.09***
					CENSUSES					
Age	24845878	26.86 (19.46)	2631580	32.29 (16.69)	5.43***	24736594	26.07 (19.1)	2923963	33.53 (16.69)	7.45***
Age at first marriage	2240766	17.72 (3.87)	257773	18.63 (4.41)	.91***					
Attended some college	24843032	0.12 (0.33)	2631192	0.32 (0.47)	.19***	24734174	0.15 (0.36)	2923586	0.39 (0.49)	.24***
					IFLS					
Age	41306	37.61 (16.53)	19325	38.23 (15.23)	.62***	36330	37.27 (16.25)	17747	39.25 (15.34)	1.97***
Age at first marriage	22171	22.06 (9.08)	11604	22.13 (7.95)	0.07	18947	26.22 (8.42)	10364	26.66 (7.67)	.45***
Attended some college	40660	0.25 (0.43)	18975	0.3 (0.46)	.06***	35590	0.31 (0.46)	17350	0.37 (0.48)	.07***
Reads two languages	36497	0.61 (0.49)	16692	0.69 (0.46)	.08***	32232	0.7 (0.46)	15277	0.76 (0.43)	.06***
Writes two languages	36497	0.59 (0.49)	16692	0.66 (0.47)	.07***	32232	0.68 (0.47)	15277	0.74 (0.44)	.06***
Cogn. pic. score 100%	10713	0.07 (0.26)	4718	0.09 (0.29)	.02***	9452	0.1 (0.29)	4193	0.12 (0.33)	.03***
Cogn. num. score 100%	9788	0.05 (0.21)	4243	0.06 (0.24)	.02***	8575	0.04 (0.19)	3738	0.06 (0.24)	.02***

Sources: Survei Sosial Ekonomi Nasional (SUSENAS) 2011-2023, Survei Angkatan Kerja Nasional (SAKERNAS) 2017-2023, Indonesia Family Life Survey (IFLS) 1993-2014, Population Census (IPC) 1980-2010, and Intercensal Population Survey (SUPAS) 1976-2005.
Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$.

Similarly, ever-married native women tend to be working less unmarried native women, but this difference vanishes with the inclusion of respondent fixed effects. Important for our investigation, migrant married women are employed less often than married native women. It is evident from Figure 1 and the findings in the first three columns of Table 2 that marital status is strongly associated with the female migrant-native employment gap. To further explore this link, columns (4) to (6) document the conditional association between reason for migration and probability of employment in the week prior to the survey. Women who migrated for marriage-related reasons are significantly less likely to be employed than women who do not migrate. They are also much more likely to not working than women who migrated for reasons other than marriage.

Next, using the longitudinal information from the IFLS, we plot an event-study figure for the fe-

Figure 2: Marriage and Female Migrant Employment Gap



(a) SUSENAS **(b)** IFLS

Source: (a) Survei Sosial Ekonomi Nasional (SUSENAS) 2011-2023 and (b) Indonesia Family Life Survey (IFLS) 1993-2014.
Notes: The first dotted vertical line in each sub-figure denotes the female legal age of marriage before 2019 (16 years). The second dotted line in each sub-figure denotes the median age of marriage for Indonesian women (21 years in 2019). Each × is an estimated association coefficient between age and share of females in each age group who are working from an empirical specification that controls for birth year of the respondents. The whiskers denote 95% confidence intervals.

male migrant–native employment gap, with marriage as the event of interest (Figure 3). Once again, we find that the positive migrant–native employment gap among women in the years before marriage reverses in the years after marriage. Taken together, these patterns strongly suggest that the lower employment rates of migrant women are closely linked to marriage-related migration. As noted earlier, this "migrant bride employment penalty" may reflect a marriage penalty, a motherhood penalty, or both. We cannot distinguish between a migrant marriage penalty and a migrant motherhood penalty for two reasons: (i) the gap between age at first marriage and age at first birth among Indonesian women is quite small (approximately one year) and is itself endogenously determined, and (ii) it is unclear how far in advance of the first birth women begin preparing for pregnancy and how such preparation affects their employment decisions.

4 Marriage match and migrant bride quality

A potential explanation for this gap is that migrant women may enter poorer-quality matches where husbands or in-laws whose beliefs, preferences, or expectations hinder women's employment. For example, Anukriti et al. (2020) show that mothers-in-law in India exert substantial control over young married women's time, mobility, and labor-force participation, often restricting their autonomy and economic opportunities. These constraints are likely to be even more binding for migrant women, who must adjust to both a new city and a new household. A natural way to investigate this mechanism is to examine the relationship between female marriage-related migration and the characteristics of the matches they form.

In Table 3, we compare several proxies for match quality between women who migrated for mar-

Table 2: Marriage, migration, and employment of females

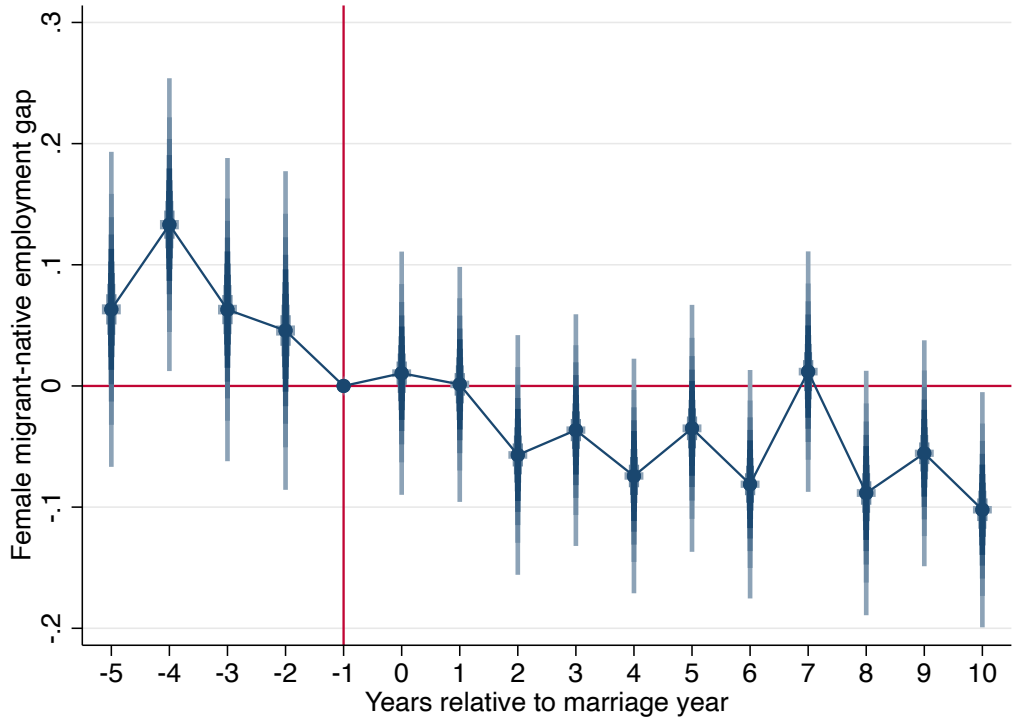
	(1)	(2)	(3)	(4)	(5)	(6)
	Employed in the week prior to the survey					
Migrant female	0.03	0.05**	-0.01			
	(0.02)	(0.02)	(0.03)			
Ever married	-0.04**	-0.04**	0.03			
	(0.02)	(0.02)	(0.02)			
Migrant × Ever married	-0.09***	-0.10***	-0.10***			
	(0.02)	(0.02)	(0.03)			
Marriage-related migration				-0.09***	-0.10***	-0.08**
				(0.02)	(0.02)	(0.03)
Migration for other reasons				-0.02	-0.04***	-0.04
				(0.02)	(0.01)	(0.03)
Respondent FE	✗	✗	✓	✗	✗	✓
Residence district FE	✗	✓	✓	✗	✓	✓
Origin district FE	✓	✓	✗	✓	✓	✗
Survey wave FE	✓	✓	✓	✓	✓	✓
High education control	✓	✓	✓	✓	✓	✓
Mean of DV	0.55	0.55	0.55	0.55	0.55	0.56
Observations	27,392	27,392	27,391	22,616	22,611	21,905

Source: Indonesia Family Life Survey (IFLS) 1993, 1997, 2000, 2007, and 2014.
Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Robust standard errors, clustered at the level of the birth (origin) district, are reported in parenthesis.

riage and those who migrated for other reasons. The sample size varies across columns because many outcome variables are unavailable for all ever-married women. For instance, husband-level information is missing for widowed or divorced women, as well as for women whose husbands do not reside in the household. Husbands of migrant brides appear to have higher high school completion rates than those of native brides, although this pattern also holds for women who migrate for non-marriage reasons. Interestingly, migrant brides report greater decision-making power regarding how they or their husbands spend time socializing and whether they themselves work—a pattern not observed among women who migrate for reasons other than marriage. Overall, the evidence provides little support for the idea that migrant brides enter lower-quality matches.

Could it be, instead, that lower-quality women—those lacking traits relevant for employment—are more likely to migrate for marriage? Columns (9) and (10) of Table 3 show that migrant brides tend to be younger and more educated than native brides. Since education is strongly correlated with employment, negative selection seems unlikely. This is consistent with the mean comparisons in Table 1. However, it remains possible that marriage migrants differ along other dimensions of human capital not captured by education but still relevant for labor-market outcomes at the

Figure 3: Female migrant-native employment gap with respect to year of marriage



Source: Indonesia Family Life Survey (IFLS) 1993, 1997, 2000, 2007, and 2014.
Notes: The vertical red line denotes the year before the marriage year. The whiskers, going from thickest to thinnest, denote 90%, 95%, and 99% confidence intervals.

destination. In the next section, we further examine whether negative selection contributes to the migrant–native employment gap among women.

5 The effect of marriage-related migration

One way to distinguish between the negative selection and direct migration effects is to utilize exogenous changes in migrant bride flows to estimate the effect of migration independent of selection. For this, we implement an instrumental variable approach. The instrument leverages the observation that marriages in Indonesia are mostly "arranged", where parental influence and broader social structures, like religious and ethnic affiliations, continue to affect individuals' decisions in selecting a marriage partner (Utomo and McDonald, 2016; Utomo, 2020; Yeung and Mu, 2020).[8] We construct the instrument as follows. For each district-wave in our sample, we calcu-

[8]Indonesia is home to more than 300 ethnic groups, with studies documenting the presence of patrilineal, bilateral and matrilineal kinship norms (Rammohan and Robertson, 2012). Ethnic groups that follow patrilineal norms see sons inherit their father's ancestral property and continue the line of descent. These groups also tend to be patrilocal where the bride moves to the house of the groom after the wedding. For similar reasons, matrilineal groups tend to be matrilocal. Theoretically, one could use the variation in norms around residence after marriage to instrument marriage-related migration. However, we do not find strong association between matrilocality/patrilocality and marriage-related migration.

Table 3: Marriage-related migration and match quality

	(1) Husband's YOB	(2) Husband-wife age gap	(3) Husband has ≥ high school	(4) Husband employed	(5) Wife has some say in: time husband spends socializing	(6) Wife has some say in: time she spends socializing	(7) Wife has some say in: if wife works	(8) Wife has some say in: contraception use	(9) Wife's YOB	(10) Wife has ≥ high school
Marriage-related migration	0.26	0.26	0.05**	0.02	0.11***	0.16***	0.07***	0.04	1.90***	0.09***
	(0.30)	(0.30)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.47)	(0.02)
Migration for other reasons	0.02	0.02	0.07***	0.00	-0.02	-0.05***	-0.05***	-0.03***	-0.36	0.14***
	(0.19)	(0.19)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.49)	(0.01)
Respondent FE	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Destination FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Origin district FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Survey wave FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mean of DV	1966.23	-4.63	0.39	0.92	0.47	0.78	0.62	0.63	1972.09	0.38
Observations	15,177	15,177	13,915	14,289	17,338	17,338	17,338	17,338	22,611	22,611

Source: Indonesia Family Life Survey (IFLS) 1993, 1997, 2000, 2007, and 2014.
Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Robust standard errors, clustered at the level of the birth (origin) district, are reported in parenthesis. All specifications additionally control for whether the respondent has completed high school

late the difference between the number of native males and females who got married since the previous wave. This mismatch serves as the "demand pull" from a destination district that leads to marriage-related migration of women into the district. Next, we distribute this demand pull across different origin districts by interacting it with the share of migrant brides from each origin district that migrated until the previous wave who were residing at destination at the time of the survey. The share proxies for the strength of existing matrimonial networks that exist between a destination-origin district pair. The rationale is larger the newly-married native male-female mismatch in a district, the greater the demand pull it generates for migrant brides. And the stronger the existing matrimonial networks between a destination-origin pair, the greater the influence of this demand on marriage-related migration at the origin. Next, for each origin district, we sum the demand from all possible destination districts to capture the total pull it faces.

More formally, let Δ_{dt} represent the difference between the number of native males and native females from district d married between survey waves $t-1$ and t. This captures the demand for migrant women at a destination. Let $\alpha_{od(t-1)}$ denote the fraction of women from an origin district o married before survey wave $t-1$ who had been living in district d during survey wave t. $\alpha_{od(t-1)} * \Delta_{dt}$ is an estimate of new migrant women from an origin o that are likely to move to destination d in year t. By summing these predictions across different destination districts, d, we obtain an estimate of the number of new migrant married women expected to move out of any origin o. We then divide these estimates by the population of the origin at time t to express the migrant outflow as a percentage of the origin's population.

$$Z_{ot} = \frac{1}{P_{ot}} \sum_{d} \alpha_{od(t-1)} \Delta_{dt} \tag{1}$$

Next, we use the percentage estimates of new migrant married women leaving an origin o in survey year t to instrument the probability that a female respondent i from origin district o interviewed in

district d is a migrant bride.

$$\textbf{First Stage: } (\text{Migrant Bride})_{iodt} = \xi + \rho Z_{ot} + \lambda_i + \kappa_d + \delta_t + \phi \mathbf{X_{iodt}} + \epsilon_{iodt} \tag{2}$$

where λ_o, κ_d, δ_t and X_{iodt} denote the included origin fixed effects, survey district fixed effects, time fixed effects and high school education fixed effects, respectively. We then use the predicted $(\text{Migrant Bride})_{iodt}$ in the second stage to estimate the effect of being a migrant bride on the respondent's employment.

$$Y_{iodt} = \alpha + \beta \widehat{(\text{Migrant Bride})}_{iodt} + \theta_i + \zeta_d + \mu_t + \gamma \mathbf{X}_{iodt} + \varepsilon_{iodt} \tag{3}$$

The compilers with this instrument are women who would have otherwise not migrated out but migrated due to an increased demand in brides from the destinations where past migrant brides from their regions generally moved to after marriage. The standard errors are clustered at the origin district o level.

Before discussing the results, it is important to clarify which forms of selection are addressed by this instrumental-variable strategy. As with shift–share instruments, it is constructed from multiple exogenous shocks weighted by proxies for their relevance to different treatment units (Borusyak, Hull and Jaravel, 2025). Excess bride demand at each destination is derived from the local gender ratio, largely determined about twenty years earlier, and is plausibly unrelated to migrant women's employment outcomes two decades later except through its effect on in-migration. The share of past migrant brides from a given origin residing at a destination then distributes this shock differentially across regions. This structure addresses two related sources of endogeneity in migration decisions. First, women in particular origins cannot anticipate the aggregate demand pull they will face in a given year, ruling out selection into migration based on contemporaneous shocks. Second, they are unlikely to predict which destinations will experience stronger demand shocks, limiting selection across destinations (Borusyak, Hull and Jaravel, 2022). While the instrument's ability to mitigate these two forms of selection is a strength, it also has a limitation: if selection effects do contribute to the migrant–native employment gap, the instrument cannot disentangle whether this arises from negative selection on migrant characteristics or from selection into particular destinations.

Table 4 reports these findings. Column (1) presents the first-stage results. The demand-pull instrument we construct is a statistically significant predictor of marriage-related migration. Because both the instrument and marriage-related migration are measured as population shares, the coefficient implies that a 10% increase in the instrument leads to a 0.2 percentage-point increase in marriage-related migration. Given that roughly one percent of Indonesian women report migrating across districts for marriage, demand for brides from other districts appears to be an important determinant of such migration. Columns (2)–(4) report the estimated effects of marriage-related

Table 4: Impact of marriage-related migration on female working status

	(1) Marriage-related migration	(2) In the labor force	(3) Employed	(4) Worked during previous week
Demand-pull instrument for migration	0.002***			
	(0.001)			
Marriage-related migration		0.68	0.61	0.51
		(1.39)	(1.48)	(1.06)
Respondent FE	✓	✓	✓	✓
Destination district FE	✓	✓	✓	✓
Origin district FE	✓	✓	✓	✓
Survey wave FE	✓	✓	✓	✓
Mean of DV	0.02	0.46	0.45	0.55
Sanderson-Windmeijer F-stat		10.45	10.45	10.45
Observations	27,393	27,391	27,391	27,391

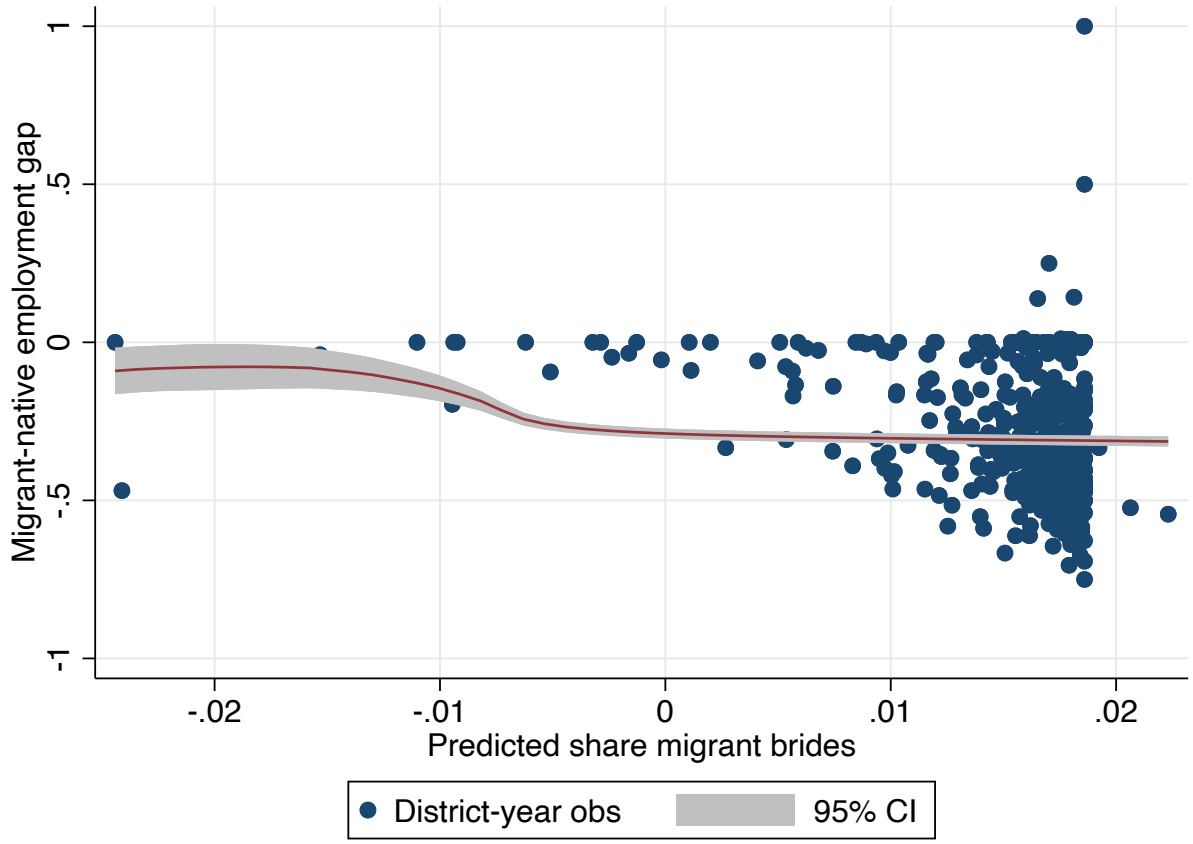
Source: Indonesia Family Life Survey (IFLS) 1993, 1997, 2000, 2004, and 2014
Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Robust standard errors, clustered at the level of the birth (origin) district, are reported in parenthesis. All specifications additionally control for whether the respondent has completed high school.

migration on employment outcomes. The table also provides the Sanderson–Windmeijer F-statistic, confirming the instrument's relevance. In contrast to the OLS estimates in Table 2, marriage-related migration no longer negatively affects employment outcomes in the IV specification. In fact, the IV estimates are positive, reversing the direction of the relationship observed earlier. This contradiction indicates that the female migrant–native employment gap is primarily driven by selection. However, as noted above, this approach cannot distinguish whether the source of selection lies in negative selection of women into migration or in selective migration to lower-quality destinations.

Understanding the composition of compliers can provide an indirect test of which type of selection is more plausible. Suppose migrant brides are negatively selected, while selection into worse destinations is relatively unimportant. In that case, exogenous increases in demand for migrant brides would raise the average quality of women induced to migrate for marriage. Consequently, the migrant–native employment gap should shrink, leading to smaller gaps in regions with higher marriage-related migration. Figure A1b illustrates the logic behind this test. Figure 4 plots the relationship between instrumented marriage-related migration shares and the female migrant–native employment gap across origin districts. We find no evidence that the gap is smaller in places with higher levels of marriage migration. This pattern suggests that selection into worse destinations is the more likely driver of the female migrant–native employment gap.

What is it about the destinations migrant brides move to that affects their employment outcomes? If the mechanism operates through the loss of networks or labor demand–supply skill mismatch, it should be reflected in job-search–related variables. Table 5 reports the association between

Figure 4: Association between predicted migrant-bride share and female migrant-native employment gap



Source: Indonesia Family Life Survey (IFLS) 1993, 1997, 2000, 2004, and 2014
Notes: Each solid circle marker corresponds to a origin district-wave observation. The gray band marks the 95% confidence interval. The specification used to generate the predicted migrant bride share includes respondent, destination district, origin district and high school completion fixed effects. Standard errors are clustered at the origin district level.

marriage-related migration and various job search measures. The first panel presents estimates from the fixed-effects specification, which does not address selection. The second panel incorporates the instrumental variable described above to account for selection. As before, comparing the FE and 2SLS estimates sheds light on how the experience or behavior of women who select into worse destinations differs from that of compliers. Column (1) shows that migrant brides are less likely to engage in job search at the destination, but this difference disappears once we account for selection into migration. This suggests that women who select into worse destinations are the ones less likely to search for jobs. Interestingly, migrant women do not report "impossible to find work" as a reason for not searching. Instead, housekeeping responsibilities primarily prevent them from looking for jobs. This pattern suggests that the loss of labor market networks may not be the primary constraint. Rather, insufficient support with household responsibilities at the destination appears more binding. It is plausible that migrant brides do not receive the same level of support from in-laws as they would from their own parents for tasks such as childcare or eldercare. One caveat, however, is that women can assess whether it is "impossible to find work" only if they begin

searching, something many might not even attempt owing to domestic responsibilities. Finally, it is important to acknowledge that housekeeping responsibilities preventing job search could also be interpreted as evidence that migrant brides enter lower-quality matches, not in terms of decision-making power or husbands' characteristics, but in terms of the household burden they face.

Table 5: Female marriage-related migration and job search

	(1)	(2)	(3)	(4)	(5)
	Any job search	Search days	Why no job search: Impossible to find	Why no job search: Housekeeping	Why no job search: Do not need
	FE Specification				
Marriage-related migration	-0.05***	-0.40	-0.02	0.28***	-0.01
	(0.02)	(0.36)	(0.01)	(0.04)	(0.02)
	2SLS Specification				
Marriage-related migration	0.54	12.55	0.69	1.57*	0.05
	(0.64)	(8.86)	(0.66)	(0.81)	(0.25)
Sanderson-Windmeijer F-stat	14.87	14.90	15.83	15.83	15.83
Respondent FE	✓	✓	✓	✓	✓
Destination district FE	✓	✓	✓	✓	✓
Origin district FE	✓	✓	✓	✓	✓
Survey wave FE	✓	✓	✓	✓	✓
Mean of DV	0.04	0.43	0.05	0.38	0.01
Observations	17,662	18,088	16,376	16,376	16,376

Source: Indonesia Family Life Survey (IFLS) 1993, 1997, 2000, 2007, and 2014.
Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Robust standard errors, clustered at the level of the birth (origin) district, are reported in parenthesis. All specifications additionally control for whether the respondent has completed high school

A natural question that follows is: why do women choose to migrate for marriage in the first place? It is difficult to argue that women are unaware of the employment cost when deciding to migrate, as past migrants typically remain in contact with their home communities and employment outcomes are readily observable. One possibility is that migrant brides are compensated for this employment loss in other ways. We investigate this in Table 6. We find no evidence of changes in consumption or subjective well-being for the full sample of migrant brides. There is some deterioration in subjective well-being among women who migrate due to exogenous shocks. Comparing estimates across specifications suggests a modest increase in subjective well-being among women who select into becoming migrant brides, consistent with the improvements in decision-making power and husbands' education documented in Table 3. However, taken together, there is little evidence of compensation substantial enough to offset the loss of employment.

Table 6: Impact of marriage-related migration on household per capita consumption

	(1)	(2)	(3)	(4)	(5)	(6)
	Ln(Per capita cons. exp.on [...] + 0.01)			Adequacy of [...] (1-3)		
	Food items	Non-food items (1 month recall)	Non-food items (12 months recall)	Standard of living	Food consumption	Health care
	FE Specification					
Marriage-related migration	0.02	-0.01	0.06	0.01	0.02	0.01
	(0.04)	(0.06)	(0.08)	(0.03)	(0.03)	(0.03)
	2SLS Specification					
Marriage-related migration	-0.38	0.77	4.02	-6.86*	-6.51*	-3.16
	(1.45)	(3.66)	(6.77)	(3.75)	(3.47)	(3.64)
Sanderson-Windmeijer F-stat	10.40	10.40	10.40	10.81	10.81	10.90
Respondent FE	✓	✓	✓	✓	✓	✓
Destination district FE	✓	✓	✓	✓	✓	✓
Origin district FE	✓	✓	✓	✓	✓	✓
Survey wave FE	✓	✓	✓	✓	✓	✓
Mean of DV	10.31	10.61	12.48	2.02	2.10	2.01
Observations	27,230	27,230	27,230	26,963	26,961	26,945

Source: Indonesia Family Life Survey (IFLS) 1993, 1997, 2000, 2004, and 2014
Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Robust standard errors, clustered at the level of the birth (origin) district, are reported in parenthesis. All specifications additionally control for whether the respondent has completed high school

6 Conclusion

This paper contributes to the growing literature on gender gaps in labor market participation by highlighting the overlooked role of marriage-related migration in shaping women's employment trajectories in Indonesia. While prior work has emphasized marriage and motherhood as key drivers of female labor force participation (FLFP) gaps, far less attention has been paid to how these penalties vary across subgroups of women or interact with major life transitions such as migration. Indonesia provides a compelling context for this inquiry: despite rapid economic growth and sizable improvements in female education, FLFP remains persistently low. Understanding why educated women continue to exit the labor force is therefore central to both academic and policy debates.

Using longitudinal data from the Indonesia Family Life Survey, we document a significant married female migrant-native employment gap that arises right around the time of marriage. Unmarried migrant women are more likely to work than their native counterparts, but this advantage disappears, and then reverses, once they marry and relocate. We rule out lower match quality or lower human capital as primary explanations. Migrant brides are younger and more educated than native brides, and they often enjoy greater decision-making autonomy within the household. The evidence points to selection into worse destinations, rather than lower-quality women, as the key channel.

The mechanisms underlying this penalty appear rooted in constraints at destination rather than preferences or willingness to work. Migrant brides are not discouraged workers in the traditional sense - many report job search activity and do not cite lack of jobs as a primary barrier. Rather, housekeeping responsibilities and domestic role expectations, exacerbated by migration into households where women lack established support networks, restrict their labor market engagement. This aligns with broader evidence on labor market segmentation, the burden of unpaid care work, and the importance of social capital for employment in developing countries.

These findings have several implications for migration policy and labor market design. First, they underscore that marriage is not a passive demographic characteristic but a dynamic event that interacts with migration to reshape women's economic opportunities. Second, they highlight the need for labor market interventions tailored specifically to married migrants, an often invisible population in policy discussions. Job-matching programs, childcare provision, recognition of prior skills, and community-based employment networks could help mitigate the structural disadvantages faced by women relocating for marriage. Third, the results suggest that reforms aimed at redistributing domestic responsibilities and improving institutional support for caregiving would likely have high returns in improving FLFP among married women.

Several caveats warrant caution. Subjective well-being effects suggest that households might partially compensate women for their loss of employment, raising questions about intra-household trade-offs that we cannot fully observe. Our data also cannot disentangle marriage from motherhood penalties, given the tight spacing between marriage and first birth in Indonesia. Additionally, some forms of employment, like informal or home-based work, often go under-reported in surveys. Future research should aim to alleviate these weaknesses. Examine heterogeneity across ethnic groups, rural and urban settings, and the role of extended-family structures in shaping employment outcomes is also of interest. A deeper understanding of how norms, networks, and local labor markets interact with marital transitions would offer important insights for designing gender-responsive migration and labor policies. More broadly, this work calls for re-examining the economic consequences of marriage-related migration across low- and middle-income countries, where similar social and demographic patterns may generate comparable, and largely unmeasured, employment penalties for women.

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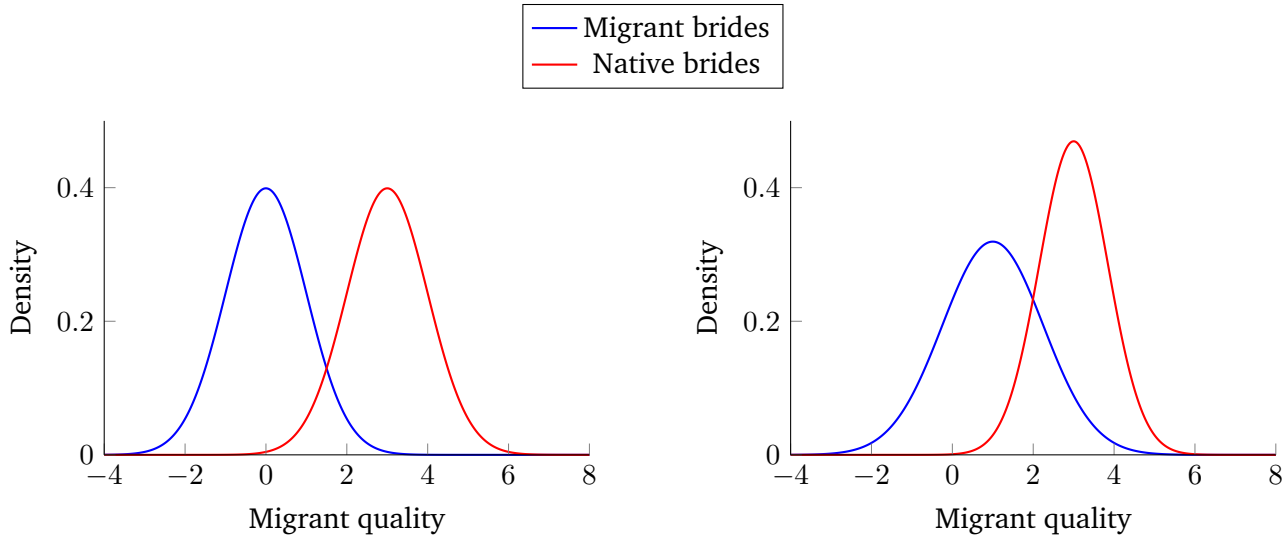
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Appendix

Figure A1: Illustration of how exogenous increases in migrant brides increases the average quality of migrant brides.



(a) Before the exogenous demand increase

(b) After the exogenous demand increase