

Gender Comparative Advantage and Divorce Litigation in China

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Abstract

This paper studies how female-biased trade shocks affect women’s divorce decisions in China. We develop a simple model of marital dissolution in which female-biased trade shocks operate through three channels: improved outside options, greater intra-household bargaining power, and lower stigma costs of female-initiated divorce. Using cross-city variation in export composition and first-instance divorce lawsuits disclosed on China Judgment Online, we find evidence consistent with the model’s predictions. We show that women are more likely to initiate divorce in regions that specialize in female-skill-intensive exports. This effect is particularly pronounced when husbands engage in marital misconduct, such as domestic violence, drug abuse, or indebtedness, and among younger women and mothers of children aged 2–18. We further show that export exposure reshapes intra-household dynamics by eroding traditional gender norms, reducing female housework time, raising female income, and increasing female-oriented expenditure.

Keywords: comparative advantage; divorce; litigation; gender equality

JEL Classifications: F14, F16, J12, J16

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1 Introduction

The family has long been viewed as a private domain, governed by norms, relationships, and implicit contracts distinct from the formal logic of the market. A fundamental question in economics, however, is whether this boundary is truly impermeable. Can large-scale macroeconomic shocks, operating in the public sphere of international trade, penetrate the household and systematically alter its most private and consequential decisions? This paper provides an answer to this question by tracing the causal pathway from a city's integration into global markets to one of the most intimate household outcomes: the decision to dissolve a marriage. We argue and show that when a region's export structure raises the economic value of skills in which women hold a comparative advantage, it triggers a cascade of effects that fundamentally reallocates intra-household bargaining power.

We investigate this question in the context of modern China, a setting characterized by two parallel and profound transformations: a dramatic rise in divorce rates and an unprecedented integration into the global economy, fueled by export-oriented growth. The number of divorced couples rose from 2.09 million in 2007 to 4.15 million in 2016, representing an average annual growth rate of 7.1%.¹ Meanwhile, China has been deeply integrated into the global economy, sustaining close trade relations with major economies and experiencing the penetration of foreign norms after its accession to the WTO.

Recent research suggests that globalization could affect gender inequality, as well as women's employment and family decisions across countries (Bøler et al., 2018; Do et al., 2016; Juhn et al., 2013; Li, 2021; Keller and Utar, 2022), and provides mixed findings.² In this paper, we focus on women's divorce decisions and examine how a city's export composition, based on gender-advantaged skills, affects the likelihood of women initiating

¹The data are from *2016 Statistical Bulletin on the Development of Social Services* published by the Ministry of Civil Affairs. In recent years, the Ministry of Civil Affairs has ceased to disclose the number of divorces through litigation and only reports data on divorces by mutual agreement.

²For example, in a global context, countries with comparative advantage in female-intensive goods have lower fertility (Do et al., 2016); in a developed country context, import competition from China reduces marriage and raises the fraction of mothers who are unwed in the United States, interpreted as an increase in women's empowerment (Autor et al., 2019), while the same trade shock causes women to have a baby when approaching the end of biological clock in Denmark, resulting in greater gender inequality (Keller and Utar, 2022).

divorce litigation in China.

To guide our empirical analysis, we develop a simple conceptual framework of marital dissolution that draws on intra-household bargaining, economic dependence, and the social cost of divorce. In the model, a female-biased trade shock raises women's relative wages and improves their outside option, but divorce remains costly because women may face stigma, family pressure, or traditional gender norms that discourage marital exit. The shock, therefore, operates through three channels. First, increasing the wife's relative income makes independent living more feasible and raises the incentive to exit low-quality marriages. Second, the same improvement in relative income strengthens the wife's bargaining position within marriage, allowing her to secure a larger share of marital resources and thereby reducing the incentive to divorce. Third, if female-biased export exposure weakens traditional gender norms or lowers the stigma associated with female-initiated divorce, it further reduces the cost of marital exit.

We use a comprehensive data set that covers almost all divorce lawsuits in China during the period 2014-16. As a reform to increase judicial transparency, in 2013, the Supreme People's Court (SPC) established an official website, China Judgment Online (CJO), and mandated that all local courts upload their judgments to this website. These court judgments provide rich information on divorce, including names and addresses of plaintiffs and defendants, court localities, marital facts such as the presence of domestic violence and children, and judicial outcomes. The corpus enables us to identify the initiating party and analyze when trade specialization is particularly helpful in empowering women to exit marriage.

Our main case-level outcome is not the overall divorce rate but an indicator of whether the plaintiff is female in observed first-instance divorce litigation. We interpret this as the gendered initiation margin within contested judicial dissolution. This margin is substantively meaningful in the Chinese context: litigated divorce is costly, first petitions are frequently denied, and filing requires one spouse to bear the legal, financial, and social costs of formal exit. We note that court-adjudicated divorce captures only a subset of all marital dissolution, and caution against interpreting our baseline estimates as the effect of trade specialization on divorce more broadly.

The key dimension of trade we exploit is export composition, rather than total export volume. Following [Li \(2021\)](#), we construct an industry-level index of female export intensity using O*NET data. We extract occupation-level measures of gender-specific skill dependence, aggregate to the industry level using occupational employment shares as weights, and apply principal component analysis to obtain an overall index of the degree to which each industry relies on female- relative to male-advantaged skills. City-level female export intensity is then constructed by combining this industry-level index with city-industry export data.

Exploiting cross-city variation in export composition and a large sample of disclosed first-instance divorce judgments, we find that cities specializing in female-skill-intensive exports have a higher female plaintiff share among observed litigated divorce cases. The findings remain unchanged after the inclusion of a variety of city and case characteristics, as well as city and year fixed effects. To address potential endogeneity, we construct a Bartik-style instrument following [Campante et al. \(2023\)](#) and [Ma et al. \(2025\)](#), leveraging exogenous variation in global demand shocks. The IV estimates support a causal interpretation of the baseline findings. These litigation-based findings are further corroborated by provincial court-adjudicated divorce rates from *the China Civil Affairs Statistical Yearbook* and census-based female divorce prevalence. The findings are also robust to 11 alternative measures of gender-oriented skills from [Li \(2021\)](#) and to an industry-level female employment share measure following [Do et al. \(2016\)](#).

We then unpack the specific circumstances under which this empowerment matters most. First, we exploit case-level information on marital misconduct, including indebtedness, drug abuse, and domestic violence, and find that the positive effect of female export intensity on divorce initiation is significantly amplified when husbands engage in such misconduct, whereas misconduct by wives substantially reduces their propensity to file. Second, the effect is concentrated among women aged 20–29, consistent with this cohort being the most direct beneficiaries of expanding female labor market opportunities. Third, the effect is present only among mothers of children aged 2–18, the group facing the highest financial and legal costs of divorce.

Moreover, we examine whether female-skill-intensive export composition affects

court decisions. In practice, even if women initiate divorce litigation multiple times, judges may not necessarily approve the petitions. Our results show that, relative to men, women's divorce claims are less likely to be approved, but the judicial disadvantage fades with female export intensity.

Finally, we explore potential mechanisms. Using individual-level survey data, we show that our export intensity measure is associated with a significant erosion of traditional gender norms, particularly among women. We also document tangible shifts in economic behavior: women in these cities spend significantly less time on housework, earn a higher personal income (closing the intra-household income gap), and household expenditure patterns shift systematically toward female-oriented goods. These results paint a comprehensive picture, connecting a macroeconomic trade shock to shifts in individual attitudes, intra-household resource allocation, and ultimately, to the profound and life-altering decision to dissolve a marriage.

This paper speaks to three strands of the economics literature. First, our paper advances the literature on international trade and gender issues. Earlier studies primarily focus on the impact of trade liberalization on gender wage inequality ([Busse and Spielmann, 2006](#); [Juhn et al., 2013, 2014](#)), whereas recent work shifts to the heterogeneous effects of globalization on family outcomes. [Autor et al. \(2019\)](#) document that the import competition from China negatively impacts men's employment, resulting in a decline in marriage and fertility in the US, but [Keller and Utar \(2022\)](#) find that comparable shocks in Denmark redirect women toward family formation as labor market opportunities contract. Closely related, [Do et al. \(2016\)](#) and [Li \(2021\)](#) examine how the expansion in female-intensive sectors affects fertility and gender norms. Our paper addresses this divergence and contributes in two respects. First, we shift attention from marriage and fertility to divorce, a relatively underexplored but direct measure of marital dissolution. Second, we propose a unifying mechanism to reconcile the divergent findings: the gender-specific skill composition of exports. Rather than trade exposure per se, it is a region's comparative advantage in female-skill-intensive goods that determines whether globalization empowers women within the household.

Second, our empirical work contributes to the literature on intra-household bargain-

ing. Classical collective household models posit that bargaining power is determined by outside options (Manser and Brown, 1980; McElroy and Horney, 1981). This has been validated by extensive studies showing that exogenous improvements in women’s economic standing, through pension programs (Duflo, 2003), agricultural reforms (Qian, 2008), or conditional cash transfers (Bobonis et al., 2013), lead to better outcomes for women and children. We add to this literature by identifying a new source of quasi-exogenous variation in women’s outside options: city-level exposure to global demand for female-skill-intensive goods. Linking this macroeconomic shock to divorce initiation, a high-stakes and directly observable bargaining outcome, yields new evidence on how shifts in intra-household power translate into real household decisions.

Finally, we contribute to the growing literature on the interplay between economic shocks and social norms. While economists have long recognized that culture shapes economic outcomes (Lindbeck et al., 1999; Bašić and Verrina, 2024), a central question is whether economic forces can, in turn, erode long-standing cultural norms (Fernández, 2011). Recent evidence from China shows that exposure to multinationals transmits more gender-equal attitudes and expands female employment across both foreign affiliates and domestic firms (Tang and Zhang, 2021). We further provide direct evidence that the economic shock co-evolves with the norms governing household behavior: city-level specialization in female-skill-intensive exports is associated with more liberal gender attitudes, particularly among women. This finding disciplines the mechanism and offers a micro-founded account of how trade-induced economic change drives broader social transformation.

The remainder of this paper is organized as follows. Section 2 introduces the institutional background. Section 3 provides a conceptual framework. Section 4 describes the data, measurement, and empirical designs. Section 5 presents the main empirical results, and Section 6 explores potential mechanisms. Section 7 concludes.

2 Background

2.1 Marital System within the Cultural Context

Marriages are not merely private contracts between individuals but are profoundly affected by dominant institutions, social norms, and ideological systems. Sociological and anthropological theories alike emphasize that marriage serves as a key mechanism for social organization, far beyond its role in personal relationships (Goody, 1976). It functions to regulate property distribution, consolidate power, establish alliances, and enforce social hierarchies. Historically, marriage has often been co-opted by political and religious authorities to serve broader governance purposes. In medieval Europe, for example, the Church transformed marriage into a sacramental institution, thereby extending its influence into secular governance through marital legislation and adjudication. In contrast, ancient China embedded marriage within the patrilineal clan system, where marital alliances reinforced kinship ties, secured lineage continuity, and embodied Confucian ideals of social order and filial piety. Across cultures and eras, marriage reflects the prevailing power dynamics and values of its time, serving both as a mirror of social order and as a mechanism for its reproduction.

Family solidarity has long been regarded as a cornerstone of Chinese culture (Baber, 1934). In imperial China, this solidarity was institutionalized through patrilineal kinship, in which clan membership, the primary social unit beyond the nuclear family, was transmitted exclusively through the male line. Marriage thus served as the central mechanism for preserving family lineage and securing the collective interests of the extended family, with the marital system structured accordingly to subordinate individual preferences to these broader obligations. This logic helps explain why infertility, particularly barrenness, was recognized as the first of the "seven justifying causes" for divorce under imperial Chinese law. By contrast, a wife faced extraordinary legal barriers to initiating divorce without her husband's consent.³ Marriage also functioned as an instrument for enforcing

³Section 114 of the *Ta Tsing Leu Lee* (*Da Qing Lv Li*, in Chinese) states that a wife who absconded without her husband's consent faced 100 blows, while the husband retained the right to remarry. Should she contract another marriage during her absence, the penalty was death by strangulation following the prescribed period of confinement.

social ethics and hierarchical moral codes: conduct deemed disrespectful toward one's parents or parents-in-law constituted legitimate grounds for dissolution. Divorce, in this context, was far more than the severance of a conjugal bond; rather, it was an act of institutional enforcement, giving legal expression to the normative order that governed family and social life.

Building on the institutional functions of marriage and divorce discussed above, it becomes evident, as (Cohen, 2015) argues, that marriage is intimately intertwined with social hierarchies. Across societies, marital practices have historically reflected and reinforced patriarchal structures that privileged men over women. This patriarchal orientation has shaped family systems and gender relations in both Eastern and Western cultures. In the Chinese context, Confucianism codified this hierarchy through doctrines such as the "Three Obediences and Four Virtues", which set clear moral and behavioral expectations for women.⁴ Under this moral code, a widow, although legally permitted to remarry, was expected to remain loyal to her deceased husband. Remarriage was widely stigmatized, deemed acceptable only for women of impoverished backgrounds who could not afford to uphold such social conventions. A widow's conduct became a matter of familial honor: steadfast refusal to remarry brought prestige to her husband's family, whereas remarriage was regarded as a source of shame.

Modernization has introduced a growing tension between rapid economic development and the comparatively sluggish evolution of social norms and ideologies governing marriage and divorce. A telling example is the persistent gap between women's rising labor force participation and traditional expectations of domestic responsibility, frequently cited as a key driver of declining fertility (Goldin, 2025). This tension is especially pronounced in China, where decades of rapid economic transformation stand in sharp contrast to one of the world's longest continuous civilizational traditions. Despite significant societal change, divorce remains socially stigmatized in China, particularly for women. Against the backdrop, over 70% of divorce petitions in Chinese courts are initiated by women, reflecting a strong willingness to exit failing marriages in the face of persistent

⁴The "three obediences" required a woman to obey her father before marriage, her husband after marriage, and her son upon widowhood. The "four virtues" prescribed proper conduct in morality, speech, appearance, and domestic skills.

social pressure.

2.2 Current Chinese Divorce Law

We now turn to the current legal framework governing divorce in China. After several rounds of reform since the enactment of the first Marriage Law of the People's Republic of China in 1950, the basic legal structure of divorce has shifted from a fault-based system in ancient China to the "no-fault" principle. Chinese law recognizes two avenues for marital dissolution. The first is divorce by mutual consent, in which both parties jointly apply to the Civil Affairs Bureau. Spouses negotiate their own post-marital arrangements, covering property division and child custody, through binding private agreements, which reflects the principle of contractual autonomy in family law (Mnookin and Kornhauser, 1978). Official review is largely perfunctory, and a divorce certificate is issued once mutual consent is confirmed.⁵ The second route is judicial divorce, available when mutual agreement cannot be reached. Either party may petition the court, which issues a decree carrying the same legal force as a divorce registration but subject to closer scrutiny of the marital breakdown.

Unilateral divorce has been recognized since the 1950 Marriage Law, though courts were generally reluctant to grant it without clearly defined statutory grounds, often prioritizing marital stability over individual exit. Subsequent amendments addressed this ambiguity by establishing "irretrievable breakdown" as the fundamental ground for divorce, particularly where court-led mediation fails. Under the current Civil Code, irretrievable breakdown is operationalized through six specific circumstances: (1) adultery; (2) domestic violence, abuse, or abandonment; (3) persistent gambling or drug abuse uncorrected despite repeated admonitions; (4) separation for at least two years; (5) petition filed when the other spouse is officially declared missing; and (6) other circumstances leading to marital breakdown. Moreover, if a prior petition was rejected but the spouses have since lived apart for one year, a renewed petition must be granted.

⁵Starting from January 1, 2021, China introduced a compulsory 30-day cooling-off period during which either party can withdraw and cancel the application process. This regime aims to prevent impulsive divorce and strengthen family stability.

From its early emphasis on preserving marital stability to its current codification of individual rights and welfare considerations, Chinese divorce law reflects an evolving balance between traditional family values, social stability, and personal autonomy within marriage.

2.3 Divorce Litigation in the Chinese Court System

Between 2014 and 2016, annual divorces in China rose from 3.64 million to 4.16 million, of which approximately 18% were adjudicated or mediated through the court system.⁶ Within this judicial process, petitions are denied more often than approved, particularly at first filing, where courts require firm evidence of an "irretrievable breakdown" of the marriage before granting dissolution. Litigating divorce is therefore a high-stakes, costly endeavor that signals a strong and deliberate commitment to marital exit.

Divorce proceedings address three core issues: dissolution of marital status, division of marital property and debts, and custody and support of minor children. Marital assets are divided primarily by spousal agreement; absent agreement, courts mandate equal division while giving special consideration to the interests of children, women, and the spouse who assumed greater caregiving responsibilities. When minor children are involved, all decisions are governed by the best-interests-of-the-child principle. Custody of children under two is presumptively granted to the mother; for children aged two to seven, courts determine custody based on parental circumstances if no agreement is reached; for children eight and older, the child's own expressed preferences must also be considered. The litigation system accommodates both comprehensive filings that resolve all disputes simultaneously and subsequent issue-specific filings if circumstances change following an initial ruling. Our analysis is restricted to cases in which the primary claim is dissolution of the marriage. Jurisdiction typically lies with the court of first instance in the district of the defendant's domicile.

⁶Data are from China's annual Statistical Bulletin on Civil Affairs Development.

3 Conceptual Framework

3.1 Setup

To understand the relationship between female-biased trade shocks and divorce litigation, we develop an open economy model that micro-founds how exogenous export demand shocks affect marital dissolution by shifting intra-household relative wages and the social cost of divorce.

The economy is populated by two types of heterogeneous labor, female and male, each with a fixed endowment. Each household consists of a wife, denoted by f , and a husband, denoted by m . Each spouse supplies one unit of labor inelastically to the market, earning wages w_f and w_m . Total household income is $Y = w_f + w_m$.

There are two sectors in the economy, denoted by sector 1 and sector 2. Both sectors use female labor, L_f , and male labor, L_m , to produce under Cobb-Douglas technologies:

$$Y^1 = A^1(L_f^1)^\alpha(L_m^1)^{1-\alpha}, \quad Y^2 = A^2(L_f^2)^\beta(L_m^2)^{1-\beta}. \quad (1)$$

We assume that sector 1 is more female-skill-intensive than sector 2, i.e., $\alpha > \beta$.

Suppose this economy experiences an exogenous positive external demand shock Z to sector 1, such as a global demand shift or trade barrier reduction targeting sector 1 goods. As detailed in Appendix C, the simultaneous clearing of both goods markets implies that a rise in Z increases the equilibrium prices of both goods, but the price of sector 1 goods rises proportionally more, $\hat{p}^1 > \hat{p}^2 \geq 0$. This relative price shift in favor of the female-intensive sector raises the return to female labor by more than the return to male labor. In Appendix C, we show that the following lemma holds:

Lemma 1. *A positive external demand shock, $dZ > 0$, to the female-labor-intensive sector disproportionately raises its relative price, thereby strictly increasing the female-to-male relative wage.*

We define the wife's relative economic position as

$$\omega(Z) \equiv \frac{w_f}{Y}, \quad (2)$$

which represents the wife's share of total household income. A female-biased trade shock raises the female-to-male wage ratio and therefore increases $\omega(Z)$, so that $\partial\omega/\partial Z > 0$.

3.2 Preferences and Marriage Choice

The wife's marital utility depends on private consumption and marital distress. Let $\theta_i \in [0, \infty)$ denote marital distress in household i . A larger value of θ_i corresponds to lower marriage quality. This term captures idiosyncratic dissatisfaction within marriage and can also represent severe forms of marital misconduct, such as domestic violence, drug abuse, excessive debt, or other behavior by the husband that lowers the value of remaining married. Let $G(\cdot)$ denote the cumulative distribution function of θ_i , with density $g(\cdot)$.

Following the collective household and Nash bargaining literature (McElroy and Horne, 1981; Browning et al., 1994), marital resources are distributed according to a sharing rule. Let $\lambda(\omega) \in (0, 1)$ denote the wife's allocated share of total household consumption, so that $c_f = \lambda(\omega)Y$. The sharing rule depends on the wife's relative bargaining power. As the wife's relative income share ω increases, her threat point improves, compelling the husband to transfer a larger share of marital resources to her in order to prevent dissolution. Formally, $\lambda'(\omega) > 0$.

We also allow divorce to involve a fixed stigma or social norm cost. Let $\kappa(Z) \geq 0$ denote the stigma cost of divorce, measured as a share of total household income. Its money-metric value is therefore $\kappa(Z)Y$. This cost captures traditional gender norms, family pressure, reputational concerns, and psychological costs associated with female-initiated divorce. A weakening of traditional gender norms corresponds to a decline in this cost, so $\partial\kappa/\partial Z < 0$.

The wife's utility within marriage is given by

$$V_f^M(\omega, \theta_i) = \frac{\lambda(\omega)Y}{1 + \theta_i}. \quad (3)$$

The term $1/(1 + \theta_i)$ captures the idea that marital distress lowers the utility value of marital consumption. If the marriage dissolves, the wife exits the household and consumes

her individual labor income independently, net of the stigma cost of divorce. Her utility outside marriage is

$$V_f^D(\omega, \kappa) = w_f - \kappa(Z)Y = Y[\omega - \kappa(Z)]. \quad (4)$$

We focus on the interior case in which $\omega > \kappa(Z)$, so that divorce is feasible in utility terms.

Under a unilateral divorce regime, the wife initiates divorce if her outside option strictly dominates her marital utility:

$$V_f^D(\omega, \kappa) > V_f^M(\omega, \theta_i). \quad (5)$$

Using equations (3) and (4), this condition can be written as

$$Y[\omega - \kappa(Z)] > \frac{\lambda(\omega)Y}{1 + \theta_i}. \quad (6)$$

Equivalently, divorce occurs when marital distress exceeds a threshold:

$$\theta_i > \theta^*(\omega, \kappa) \equiv \frac{\lambda(\omega)}{\omega - \kappa(Z)} - 1. \quad (7)$$

Therefore, the probability of a female-initiated divorce is

$$P(\omega, \kappa) = \Pr(\theta_i > \theta^*(\omega, \kappa)) = 1 - G(\theta^*(\omega, \kappa)). \quad (8)$$

3.3 Model Predictions

A female-biased trade shock affects the probability of female-initiated divorce through three channels. First, it raises the wife's relative income share, ω , thereby improving her outside option. Second, it strengthens her bargaining position within marriage, increasing $\lambda(\omega)$, which raises marital utility and dampens the incentive to divorce. Third, if export exposure weakens traditional gender norms, it reduces the stigma cost of divorce, $\kappa(Z)$, making divorce less costly.

Differentiating equation (8) with respect to Z yields

$$\frac{\partial P(\omega, \kappa)}{\partial Z} = \frac{g(\theta^*(\omega, \kappa)) \lambda(\omega)}{[\omega - \kappa(Z)]^2} \left[(1 - \tilde{\varepsilon}_{\lambda, \omega}) \frac{\partial \omega}{\partial Z} - \frac{\partial \kappa}{\partial Z} \right], \quad (9)$$

where

$$\tilde{\varepsilon}_{\lambda, \omega} \equiv \frac{\partial \lambda(\omega)}{\partial \omega} \frac{\omega - \kappa(Z)}{\lambda(\omega)} \quad (10)$$

is the pass-through of the wife's improved outside option into her marital resource share.

Equation (9) highlights the key tradeoff. A higher ω increases the wife's value of exit, lowering the marital-distress threshold required for divorce. However, a higher ω also increases the wife's consumption share within marriage through $\lambda(\omega)$, which raises the value of staying married. The outside-option effect dominates the intra-household bargaining effect when $\tilde{\varepsilon}_{\lambda, \omega} < 1$. In addition, a decline in stigma, $\partial \kappa / \partial Z < 0$, independently increases the probability of female-initiated divorce.

Proposition 1. *A positive external demand shock, $dZ > 0$, to the female-labor-intensive sector raises the female-to-male relative wage and increases the probability of female-initiated divorce if $\tilde{\varepsilon}_{\lambda, \omega} < 1$ and $\partial \kappa / \partial Z \leq 0$.*

When $\kappa = 0$ and $\partial \kappa / \partial Z = 0$, this condition collapses to the standard requirement that the elasticity of the wife's marital resource share with respect to her income share is below one. It is natural to assume that a rise in ω improves the wife's share within marriage, though not enough to fully offset the direct increase in the value of exit. Empirical evidence from pension income, crop-price shocks, and transfer programs shows that greater female-controlled resources shift intra-household allocation toward women, but with less than complete pass-through (Duflo, 2003; Qian, 2008; Bobonis et al., 2013). In other words, improvements in women's resource control strengthen their bargaining position, but the sharing rule adjusts only partially.

The model also generates predictions about heterogeneity by marriage quality. Since divorce occurs when $\theta_i > \theta^*(\omega, \kappa)$, marriages with greater marital distress are more likely to dissolve. Moreover, the effect of a female-biased trade shock is stronger for groups with more mass near the divorce threshold.

To see this, let k index a subgroup with marital-distress distribution $G_k(\cdot)$ and density $g_k(\cdot)$. The divorce probability for group k is

$$P_k = 1 - G_k(\theta_k^*), \quad (11)$$

where

$$\theta_k^* = \frac{\lambda(\omega_k)}{\omega_k - \kappa(Z)} - 1. \quad (12)$$

The response of group k to the trade shock is

$$\frac{\partial P_k}{\partial Z} = \frac{g_k(\theta_k^*) \lambda(\omega_k)}{[\omega_k - \kappa(Z)]^2} \left[(1 - \tilde{\varepsilon}_k) \frac{\partial \omega_k}{\partial Z} - \frac{\partial \kappa}{\partial Z} \right], \quad (13)$$

where

$$\tilde{\varepsilon}_k \equiv \frac{\partial \lambda(\omega_k)}{\partial \omega_k} \frac{\omega_k - \kappa(Z)}{\lambda(\omega_k)}. \quad (14)$$

Proposition 2. Low-quality marriages. *A female-biased trade shock has a stronger effect on female-initiated divorce among low-quality marriages that are closer to the divorce threshold. In particular, for two groups facing the same wage and stigma responses, the effect is larger in the group with greater density of marital distress around the threshold, $g_k(\theta_k^*)$. More generally, the effect is also larger for groups with a stronger response of the wife's relative income share, $\partial \omega_k / \partial Z$.*

Proposition 2 connects the model to heterogeneity by marital misconduct and demographic characteristics. Husband misconduct, including domestic violence, drug abuse, and indebtedness, corresponds to higher marital distress, θ_i , and therefore lower marriage quality. These marriages are more likely to lie near or above the divorce threshold. The same logic predicts stronger responses among groups whose outside options are especially responsive to female-biased labor demand or who are closer to the divorce margin, such as younger women and mothers with children aged 2-18.

Finally, the stigma term generates a distinct prediction about gender norms. Holding the wage channel fixed, the effect of a change in stigma is

$$\left. \frac{\partial P(\omega, \kappa)}{\partial Z} \right|_{\omega} = - \frac{g(\theta^*(\omega, \kappa)) \lambda(\omega)}{[\omega - \kappa(Z)]^2} \frac{\partial \kappa}{\partial Z}. \quad (15)$$

Thus, if female-biased export exposure weakens traditional gender norms and reduces the stigma cost of divorce, so that $\partial\kappa/\partial Z < 0$, then the stigma channel increases the probability of female-initiated divorce even holding wages fixed.

Proposition 3. Stigma and traditional gender norms. *If female-biased export exposure weakens traditional gender norms and lowers the fixed stigma cost of divorce, $\partial\kappa/\partial Z < 0$, then it increases the probability of female-initiated divorce. This stigma channel reinforces the outside-option channel generated by the rise in women's relative wages.*

Proposition 3 motivates the mechanism tests on gender norms and intra-household dynamics. Female-biased export exposure may affect divorce not only by improving women's labor-market opportunities, but also by reducing the social and psychological cost of women exiting low-quality marriages. Therefore, evidence that export exposure weakens traditional gender norms, reduces women's housework burden, raises women's income, or shifts household expenditure toward women is consistent with the model's stigma and bargaining channels.

4 Data, Measurement and Empirical Strategy

4.1 Sample of Divorce Litigation

Our primary data source for divorce litigation is China Judgment Online (CJO), the official platform for disclosing judicial documents established by the Supreme People's Court (SPC). As part of a major judicial reform initiative, the SPC mandated that courts at all levels upload written judgments and rulings to CJO, effective from January 2014. Exceptions are made for sensitive cases, such as those involving state secrets, personal privacy, or juvenile crime. Our sample is restricted to the 2014-2016 period because a 2016 SPC provision subsequently allowed courts to exempt divorce and custody cases from full online disclosure.⁷ Consequently, the availability of detailed, full-text divorce case judgments sharply declined thereafter; for example, approximately 88% and 94% of di-

⁷See "Provisions on the Publication of Judgments by People's Courts on the Internet," issued by the Supreme People's Court (2016).

orce cases in 2017 and 2018, respectively, were listed with only a case number. Our initial sample comprises 761,977 divorce cases from this period. We offer a detailed description of this dataset and its comparison with other sources of divorce data in Appendix B.

The standardized format of Chinese judicial documents provides rich, structured information. Each judgment includes basic case details (court, judge, decision date), information on the litigants, a summary of their claims, the court’s recounting of facts, and the legal reasoning underpinning the final verdict. We employ natural language processing techniques and large language models to dive into the texts to extract comprehensive variables for our analysis. These include but are not limited to litigant characteristics (names, gender, address), case details (court, lawyers, judge), and the substantive elements of the dispute, such as the presence of children, duration of marital separation, and allegations of marital misconduct (e.g., domestic violence, drug abuse). We also extract the final outcome: whether the divorce petition was approved or dismissed, the custody arrangement, and the property division. We only retain cases with complete information on these fundamental variables and exclude observations lacking gender information for both the plaintiff and defendant or those with missing information on control variables introduced later. This sample represents the broadest available set of first-instance divorce judgments with usable litigant information, rather than the universe of marital dissolution.

4.2 Measuring City-level Female Export Intensity

We construct a measure of regional trade specialization in female-skill-intensive sectors by combining city-level export composition with industry-level skill requirements. The underlying assumption is that well-documented gender differences in cognitive and non-cognitive skills provide an exogenous basis for women’s comparative advantage across occupations. For instance, men tend to outperform women in visuospatial tasks, while women tend to excel in verbal communication and certain social skills (see, e.g., [Blau and Lynch, 2024](#)).

To measure an industry’s reliance on gender-advantaged skills, we map industries to occupations and then identify the importance of specific skills for each occupation.

Following Li (2021), we define two categories of skills. We classify verbal/written capacities (oral comprehension, oral expression, written comprehension, written expression) and social capacities (negotiation, persuasion, service orientation, coordination) as "female-advantaged" domains. Conversely, we classify cognitive spatial abilities (spatial orientation, visualization) and physical strength attributes (explosive strength, static strength, stamina, trunk strength, gross body coordination, and extent flexibility) as "male-advantaged" domains.⁸

For each skill, we construct an industry-level skill intensity score as a weighted average of O*NET importance scores across occupations, using occupational employment shares as weights:

$$\text{Ind_skill}_k^q = \sum_{o=1}^{N_k} \text{laborshare}_{ko} \times \text{score}_o^q, \quad (16)$$

where Ind_skill_k^q denotes the intensity of skill q in industry k ; N_k is the number of occupations in industry k ; laborshare_{ko} is the share of employment in occupation o within industry k ; and score_o^q is the importance score for skill q in occupation o which sourced from the O*NET database.

Next, using Principal Component Analysis (PCA), we aggregate the eight female-advantaged skill intensities into a single index, $\text{female_intensity}_k$, and the eight male-advantaged skill intensities into another index, male_intensity_k , for each industry. Furthermore, to create a more comprehensive measure of an industry's gender orientation, we also construct a composite index, $\text{overall_female_intensity}_k$, which integrates an industry's reliance on female-advantaged skills with its lack of reliance on male-advantaged skills. To achieve this, on the basis of equation (16), we retain the original scores for female-advantaged skills but invert the scores for male-advantaged skills (i.e., using $100 - \text{score}_o^q$). The resulting index consistently assigns higher values to industries that are more intensive in skills where women have a comparative advantage.

Finally, following Almeida and Wolfenzon (2005) and Do et al. (2016), we aggregate

⁸A potential concern is that this set of 16 skills may not fully capture gender-specific capabilities. In our robustness checks, we test the sensitivity of our results to alternative sets of skills and also use the female labor share as a proxy.

industry-level skill intensities to the city level using export shares as weights:

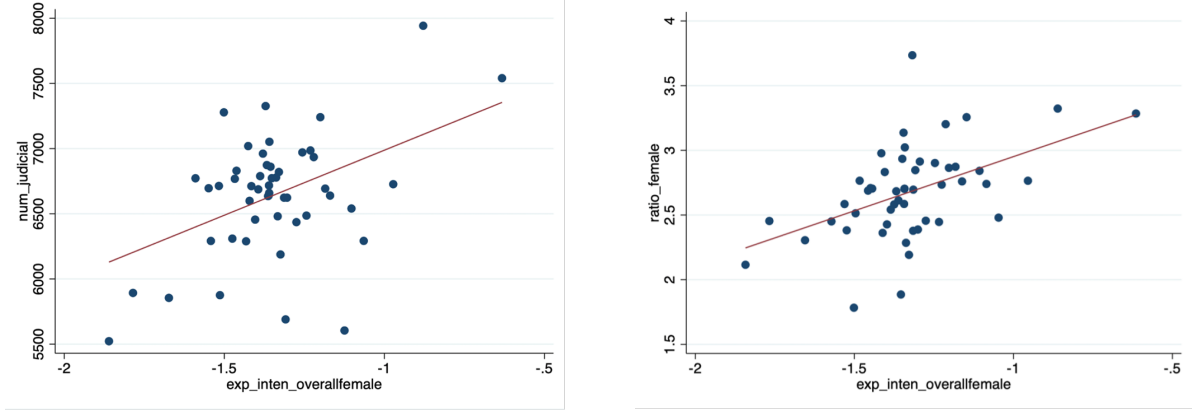
$$\text{Exp_inten_overallfemale}_{ct} = \sum_{k=1}^K \left(\frac{\text{Exp}_{kct}}{\text{Exp}_{ct}} \times \text{femaleskill}_k \right), \quad (17)$$

where c , t , and k index city, year, and industry, respectively. femaleskill_k is the female-skill intensity of industry k (measured by either $\text{female_intensity}_k$ or $\text{overallfemale_intensity}_k$), and the weight, $\frac{\text{Exp}_{kct}}{\text{Exp}_{ct}}$, is the share of industry k in city c 's total exports in year t .

4.3 Stylized Facts

As established in Section 2, couples in China can dissolve their marriage either through mutual consent via administrative registration or through litigation in the court system. Litigated divorce thus serves as a recourse of last resort for women when spousal consent is unattainable. The time and financial costs of court proceedings impose substantial barriers on women seeking to file. We hypothesize that a city's specialization in female-skill-intensive exports lowers these barriers by improving women's economic standing and eroding traditional gender norms that constrain their autonomy.

As a preliminary exploration, we first examine provincial-level data from *China Civil Affairs Statistical Yearbook*. While broader in coverage than the CJO data, this source reports only the total number of successful divorces annually, without identifying the initiating party. Panel A of Figure 1 plots the number of court-approved divorces against the city-level female export intensity index, revealing a positive and statistically significant correlation. To more directly test our hypothesis, we leverage the CJO data to identify the initiating party in each case and construct the province-level female-to-male ratio of divorce filings. Panel B shows a clear positive relationship between this ratio and the female export intensity index, consistent with our central hypothesis that women are disproportionately more likely to initiate divorce litigation in cities with greater specialization in female-skill-intensive exports.



(A) The number of court-approved divorces (B) The ratio of female-to-male initiated divorces

Figure 1. Female export intensity and divorce

Note: Panel A plots province-level export intensities in female-specific skills against the number of court-approved divorces. The data are from *the China Civil Affairs Statistical Yearbook*. Panel B plots province-level export intensities in female-specific skills against the ratio of female-initiated to male-initiated divorce litigation. The data are calculated from the China Judgment Online (CJO).

4.4 Empirical Specification

Inspired by the above stylized facts, in this subsection, we rigorously investigate the relationship between a city’s export specialization in female-skill-intensive sectors and women’s decisions to initiate divorce proceedings. To test our hypothesis, we estimate the following linear probability model:

$$Plf_female_{ict} = \alpha + \beta Exp_inten_overallfemale_{ct} + \gamma Control_{ict} + \rho_c + \sigma_t + \varepsilon_{ict}. \quad (18)$$

The unit of observation is an individual divorce case i , filed in city c in year t . The dependent variable, Plf_female_{ict} , is an indicator equal to one if the plaintiff is female, and zero otherwise. The timing of the case is based on its filing date to accurately capture the economic conditions relevant to the initiation of the lawsuit. Our primary independent variables of interest are city-level female export intensity, $Exp_inten_overallfemale_{ct}$, as defined in Section 4.2. The coefficient of interest is β . Our hypothesis is that in cities with an export composition that relies more heavily on female-advantaged skills, women are more likely to initiate divorce litigation. We therefore expect to find a positive and statistically significant estimate for β .

The vector $Control_{ict}$ includes a variety of control variables. At the case level, we

control for procedural and substantive factors that may influence divorce decisions: an indicator for refiling (courts tend to deny first-time petitions), an indicator for simplified procedure (reflecting shorter proceedings and fewer disputes), the log word count of the judgment document as a proxy for case complexity, indicators for plaintiff and defendant legal representation, and indicators for whether the couple has minor children, held a formal wedding ceremony, or has been separated for at least two years. At the city level, we include time-varying controls for local economic and demographic conditions: GDP per capita, GDP growth rate, total population, foreign direct investment, and total export value. All specifications include city fixed effects (ρ_c) and year fixed effects (σ_t) to absorb time-invariant city characteristics and common time trends, respectively.

We further examine judicial outcomes by replacing the dependent variable in the baseline equation (18) with an indicator for whether the court approves the divorce petition. To analyze the mechanisms, we draw on individual-level survey data to examine gender differences in attitudes toward marriage and the family, time allocated to housework, personal income, and female-oriented household expenditure.

5 Empirical Results

5.1 Baseline Results

Table 1 presents baseline estimates of equation (18), where the dependent variable is an indicator for whether the divorce plaintiff is female. Columns (1) and (2) report results using the first measure of female export intensity, $exp_inten_female_{ct}$, constructed from the eight female-advantaged skills. In Column (1), which includes city and year fixed effects only, the coefficient is positive and statistically significant at the 5% level, consistent with the suggestive evidence in Figure 1 and supporting the hypothesis that greater specialization in female-skill-intensive exports raises the probability of women initiating divorce. The coefficient remains stable in both magnitude and significance upon the inclusion of case- and city-level controls in Column (2), suggesting that the relationship is not driven by observable case characteristics such as the presence of minor children or

legal representation, or local economic conditions such as GDP per capita or aggregate export volume.

Columns (3) and (4) replace the explanatory variable with the preferred measure, $exp_inten_overallfemale_{ct}$, which captures an industry’s reliance on female-advantaged skills relative to male-advantaged skills. The results are highly consistent with those in Columns (1) and (2). In Column (4), our preferred specification, the coefficient is 0.012 and statistically significant at the 1% level. These findings confirm the central hypothesis: cities with greater comparative advantage in female-skill-intensive exports are associated with a higher probability of women initiating divorce litigation.

Table 1. Female export intensity and the likelihood of women initiating divorce

	plf_female			
	(1)	(2)	(3)	(4)
exp_inten_female	0.012** (0.006)	0.012** (0.005)		
$exp_inten_overallfemale$			0.012** (0.005)	0.012*** (0.005)
Case and city controls	No	Yes	No	Yes
City FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	387604	387604	387604	387604
Adj. R^2	0.016	0.048	0.016	0.048

Note: The dependent variable is a dummy indicating whether the litigation is initiated by a woman. exp_inten_female and $exp_inten_overallfemale$ are defined in equation (17), where the former relies on eight female-specific skills and the latter incorporates both male- and female-specific skills. Case controls include a set of items that may affect divorce decisions: indicator for simplified procedure (reflecting shorter proceedings and fewer disputes), the log word count of the judgment document as a proxy for case complexity, indicators for plaintiff and defendant legal representation, and indicators for whether the couple has minor children, held a formal wedding ceremony, or has been separated for at least two years. City controls include GDP per capita, the growth of GDP, population, foreign direct investment, and total exports. All regressions include city and year fixed effects. Standard errors clustered at the court level are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The estimates of unreported control variables provide additional context. The positive and significant coefficient on the refiling indicator is consistent with the institutional feature that courts systematically deny first-time petitions, and women who persist in refiling signal a strong determination to exit marriage. Female plaintiffs are also more likely to have legal representation, suggesting greater investment in or complexity of the

legal process. Notably, the coefficients on aggregate export value and FDI are statistically insignificant, indicating that it is the gender-specific skill composition of trade, rather than trade exposure per se, that drives the effect. This isolates the female comparative advantage channel from general economic globalization.

5.2 Robustness Checks

5.2.1 Provincial Divorce Data and Census data

Our primary analysis relies on litigation documents from China Judgment Online (CJO), which provide granular case-level detail but capture only litigated divorces. To establish a broader picture, we draw on two complementary sources.

First, we use province-level divorce counts from the *China Civil Affairs Statistical Yearbook*, which records annual completed court-adjudicated divorces by province. Columns (1) and (2) of Table 2 present results from a province-year panel regression using this aggregate data. The coefficient on female export intensity is positive and statistically significant with and without controls, confirming that greater reliance on female-advantaged exports is associated with a higher volume of court-finalized divorces.

Second, we draw on the 2015 national 1% population sample survey (mini-census), which captures divorce prevalence regardless of dissolution method. Though it does not identify the initiating party, it provides a cross-sectional snapshot of female marital status. Column (3) of Table 2 regresses the female divorce rate on the female export intensity index, controlling for demographic and economic characteristics and province fixed effects. The coefficient is positive and statistically significant, indicating that cities specializing in female-skill-intensive exports exhibit higher female divorce prevalence in the population.

These findings, drawn from two independent sources, corroborate the main results. While the CJO data establish that women in high-intensity cities are more likely to initiate divorce litigation, the provincial and census evidence confirm that this extends to higher rates of completed divorce and a larger divorced female population. Individual-level estimates in Appendix Table A1 further support this conclusion.

Table 2. Robustness check: provincial divorce data and census data

	number of court-adjudicated divorces		Census: female divorce rate
	(1)	(2)	(3)
exp_inten_overallfemale	0.181*** (0.045)	0.153*** (0.037)	0.0008* (0.0005)
Region controls	No	Yes	Yes
Prov FE	Yes	Yes	Yes
Year FE	Yes	Yes	No
N	93	93	239
adj. R-sq	0.995	0.996	0.656

Note: Columns (1) and (2) use the provincial divorce data from *the China Civil Affairs Statistical Yearbook* over 2014-16. The dependent variable is the log number of court-adjudicated divorces. Controls in columns (2) include GDP per capita, the growth of GDP, population, foreign direct investment, and total exports. Column (3) uses the 2015 census data. The dependent variable is the share of divorced women in the female population in each city. Controls include minority population share, college education rate, female employment rate, rural population share, GDP growth, and the logarithm of total population. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

5.2.2 Alternative Measures of Female Intensity

Our benchmark analysis relies on a specific set of 16 skills to define an industry's gender orientation. To ensure our results are not sensitive to this particular classification, we follow [Li \(2021\)](#) to construct 11 alternative indices of gender-oriented skills based on different combinations of the underlying O*NET skill domains.⁹ In addition, we use the female employment rate, calculated from the 2014 Current Population Survey of Labour Force Statistics (LFS), to proxy for the industry-level female intensity. We then re-compute our city-level export intensity measures using each of these alternative industry-level proxies and re-estimate our baseline specification. As shown in Appendix Table [A2](#), the results remain qualitatively and quantitatively similar, confirming that our findings are robust to the specific definition of female skill intensity.

⁹For example, in constructing the female intensity measure in column (2) of Appendix Table [A2](#), we designate written comprehension, written expression, oral Expression, oral Comprehension, negotiation, persuasion, service orientation, and coordination as female-oriented skills, while static strength, explosive strength, stamina, dynamic flexibility, gross body equilibrium, spatial orientation, and visualization are classified as male-oriented skills. More details can be found in [Li \(2021\)](#).

5.2.3 Instrumental Variable Estimations

A potential concern with our OLS estimates is that unobserved, time-varying local factors could simultaneously influence both a city’s export composition and women’s divorce decisions. For example, a shift in local political leadership or a region-specific social reform could affect women’s attitudes toward divorce while also encouraging the development of certain industries. To address this endogeneity concern, we employ an instrumental variable (IV) strategy.

We construct a Bartik-style instrument that leverages global trade patterns, which are plausibly exogenous to city-level divorce trends in China. Inspired by [Campante et al. \(2023\)](#) and [Ma et al. \(2025\)](#), the instrument interacts with each city’s pre-determined industry specialization with contemporaneous global demand shocks at the industry level. Specifically, our instrument is constructed as follows:

$$IV_{ct} = \sum_k \left(\frac{\text{Exp}_{c,k,\text{base}}}{\sum_{n \neq c}^C \frac{\text{Exp}_{n,k,\text{base}}}{C-1}} \times \frac{\text{Exp}_{\text{row},k,t}}{\text{Exp}_{\text{row},t}} \times \text{femaleskill}_k \right) \quad (19)$$

The first term $\text{Exp}_{c,k,\text{base}} / \left(\sum_{n \neq c}^C \left(\text{Exp}_{n,k,\text{base}} / (C - 1) \right) \right)$ captures city c ’s initial relative specialization in industry k in the base year, measured against the average specialization of all other Chinese cities, where n denotes city, and C is the total number of cities. $\text{Exp}_{\text{row},k,t} / \text{Exp}_{\text{row},t}$ is the contemporaneous share of exports in industry k to the total exports by the rest of the world. The shift does not rely on the city-level export performance but rather on the composition of total world trade flows excluding China. The third term is our standard industry-level female skill intensity. The shift component derives its exogeneity from two sources: export shares of the rest of the world excluding China capture global demand conditions beyond any single city’s influence; the female skill intensity is constructed from U.S. O*NET data and reflects technological characteristics of industries rather than endogenous responses to Chinese labor market conditions.

Table 3 reports the two-stage least squares (2SLS) estimation results. The first-stage F-statistics for the excluded instrument range from 8.8 to 14.3, generally satisfying conventional thresholds for instrument relevance. The second-stage results confirm our baseline

findings. Across all four specifications, using both measures of female skill export intensities, the coefficients remain positive and statistically significant. The IV coefficients are considerably larger than their OLS counterparts. For instance, in our preferred specification (Column 4), the IV estimate is 0.251 compared to 0.012 in OLS. This attenuation in OLS is consistent with downward bias arising from unobserved factors negatively correlated with both female export intensity and women’s propensity to initiate divorce, or from measurement error in the export intensity variable.

Table 3. Instrumental variable estimations

	plf_female			
	(1)	(2)	(3)	(4)
exp_inten_female	0.192** (0.079)	0.223** (0.109)		
exp_inten_overallfemale			0.267** (0.132)	0.251* (0.133)
Case and city Controls	No	Yes	No	Yes
City FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	387407	387407	387407	387407
Kleibergen-Paap rk Wald F statistic	14.291	10.660	9.725	8.813

Note: This table reports IV estimations. The instrument is a Bartik IV defined in equation (19) by combining the shifting share of the world’s export and the initial relative importance of specific industries in each city. Control variables are the same as in Table 1. All regressions include city and year fixed effects. Standard errors clustered at the court level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

To strengthen the causal interpretation, we perform a series of tests to assess the validity of our shift–share instrument design. First, following [Borusyak et al. \(2025\)](#), we augment the baseline specification with interactions between pre-determined regional characteristics and year fixed effects, allowing for the possibility that cities with different industrial and demographic structures were already on differential trends in female litigation behavior prior to trade-induced changes. Specifically, we interact year indicators with three pre-determined regional characteristics in the base year: the export-to-GDP ratio, controlling for secular trends associated with trade openness; the number of divorces, controlling for pre-existing differences in the propensity for marital dissolution across regions; and the old-age dependency ratio, reflecting both the demographic age structure and the conservativeness of local family norms. Table [A3](#) reports the results. Panels A and

B present the 2SLS estimates taking $\text{exp_inten_female}_{ct}$ and $\text{exp_inten_overallfemale}_{ct}$ as the endogenous variable, respectively, with each column introducing a different combination of the baseline characteristic-by-year interactions described above. Across all specifications, the 2SLS estimates remain stable in both magnitude and statistical significance.

Second, we re-compute standard errors that account for cross-regional correlation induced by common industry-level demand shocks following [Borusyak et al. \(2022\)](#). Since many cities share exposure to the same global industry shifts, clustering at the court level may underestimate standard errors. As reported in [Table A4](#), under the shock-robust framework, the coefficient on the export intensity variable remains statistically significant at the 10% level for the female skill intensity measure, and at the 5% level for the overall female skill intensity measure. This confirms that our inference is valid under this more conservative approach.

Next, we examine whether our results are driven by a small number of industries or cities that disproportionately dominate the variation in the Bartik instrument. Following [Goldsmith-Pinkham et al. \(2020\)](#), we implement two leave-one-out exercises: one that drops one industry at a time from the construction of the Bartik instrument and re-estimates the 2SLS specifications, and one that drops one city at a time from the estimation sample. [Figure A1](#) presents the estimates. Across both exercises, the coefficients remain remarkably stable, clustering tightly around the baseline estimate (red dashed line).

In summary, the IV results provide evidence that the relationship we document is not merely correlational but reflects a causal impact of a city's gender-based trade specialization on women's decisions to initiate divorce litigation. Admittedly, the exclusion restriction would fail if cities initially specialized in female-skill-intensive industries were simultaneously on differential trajectories of legal modernization, gender norms, or family behavior unrelated to global demand shocks. Our fixed effects, controls, and differential-trend exercises help reduce this concern but cannot eliminate it entirely.

5.3 More Facts in Divorce

Having established a robust positive relationship between city-level female export intensity and women’s propensity to initiate divorce, we now explore the specific circumstances under which this economic empowerment is particularly salient.

5.3.1 Marriage misconduct

In China, filing for divorce through the court system is a significant undertaking, often hindered by social stigma and the financial vulnerability of women in traditional household roles. Consequently, women may be reluctant to initiate divorce unless faced with severe marital distress that directly threatens their well-being. We focus on three forms of spousal misconduct challenging marital stability: excessive household debt, drug abuse, and domestic violence, each of which is explicitly stipulated in the Civil Code as grounds for judicial dissolution. The effects of these factors on marital stability have also been examined in related work (Rick et al., 2011; Guo et al., 2024).¹⁰ Based on a detailed description of the facts in the judicial judgment, we are able to utilize the textual analysis and large language model (Qwen-turbo) to identify the presence of these types of misconduct in each case and, crucially, attribute the misconduct to either the husband or the wife. This helps to build up the *de-facto* connections between those factors and divorce determination. In our data, these issues are prevalent, with household debt mentioned in 22% and domestic violence in 19% of cases.

Panel A of Table 4 presents the results of this analysis, where we interact our female-skill export intensity index with an indicator for misconduct committed by the husband. The findings provide powerful, nuanced support for our hypothesis. First, the main effects of misconduct are positive and highly significant across all three specifications. As expected, a husband’s indebtedness, drug abuse, or domestic violence substantially raises the probability that his wife initiates divorce litigation.

More importantly, the interaction term, $exp_inten_overallfemale_{ct} \times Misconduct$, is positive and statistically significant in all three columns. This is our central finding in this

¹⁰They find that excessive consumption by the spouse is strongly associated with low marital satisfaction, and the level of household debt impacts divorce decisions.

subsection. It demonstrates that the effect of female export intensity on divorce initiation is amplified when husbands engage in marital misconduct. In the case of domestic violence (Column 3), for instance, the interaction coefficient (0.010) is comparable in magnitude to the main effect of export intensity (0.008), suggesting that export-driven economic empowerment is particularly consequential for women seeking to exit abusive or otherwise distressed marriages. This heterogeneity maps directly into Proposition 2 in Section 3. Husband misconduct can be interpreted as a high-distress, low-marriage-quality state, so these marriages are more likely to lie near the divorce threshold; a given improvement in women's outside options therefore generates a larger increase in female initiation.

Panel B presents an informative contrast by examining cases in which misconduct is attributed to the wife. Unsurprisingly, the main effect of *Misconduct* is now strongly negative: when a wife is in debt, abuses drugs, or commits domestic violence, she is significantly less likely to initiate divorce litigation. This is consistent with these women perceiving marriage as a source of financial or social protection, reducing their incentive to seek dissolution.

The interaction effects in Panel B are equally informative. For drug abuse and domestic violence, the interaction term is statistically insignificant. This suggests that a favorable export composition does not empower women to file for divorce when they themselves are the perpetrators of misconduct. The only exception is indebtedness (Column (1)), where the interaction is positive and significant. This could indicate that while debt makes women less likely to sue for divorce overall, access to better economic opportunities can partially mitigate this reluctance, perhaps by providing a pathway to manage their financial situation independently.

One may argue that changes in economic or social conditions, such as decreases in the male-female wage gap or the launch of women's empowerment programs, may themselves affect the incidence of household debt, drug abuse, and domestic violence (Aizer, 2010; Angelucci and Heath, 2020), which blur our findings. If high export intensity in female-specific skills is associated with more marriage misconduct, then the empowering effect of export composition for women in distressing marriages documented in Panel A would be attenuated. The results of unreported estimations fail to support such con-

tures. The export composition has a negligible impact on the incidence of these misconduct behaviors.

Table 4. The impact of misconduct in marriage

	Plf_female		
	Misconduct = Debt (1)	Misconduct = Drugs (2)	Misconduct = Violence (3)
Panel A: Misconduct by Husband			
exp_inten_overallfemale	0.010** (0.004)	0.012** (0.005)	0.008* (0.004)
Misconduct	0.263*** (0.007)	0.296*** (0.011)	0.315*** (0.006)
exp_inten_overallfemale × Misconduct	0.007* (0.003)	0.010* (0.005)	0.010*** (0.003)
N	387,604	387,604	387,604
Adj. R ²	0.087	0.052	0.113
Panel B: Misconduct by Wife			
exp_inten_overallfemale	0.010** (0.005)	0.012*** (0.005)	0.012** (0.005)
Misconduct	-0.322*** (0.010)	-0.454*** (0.047)	-0.096*** (0.013)
exp_inten_overallfemale × Misconduct	0.013** (0.005)	-0.025 (0.024)	0.006 (0.006)
N	387,604	387,604	387,604
Adj. R ²	0.099	0.049	0.050
Case Controls	Yes	Yes	Yes
City Controls	Yes	Yes	Yes
City FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note: The dependent variable is a dummy indicating whether the litigation is initiated by a woman. *Misconduct* corresponds to indebtedness, drug abuse, and domestic violence in columns (1) - (3), respectively. Panels A and B report estimates based on the misconduct committed by the husband and wife, respectively. Control variables are the same as in Table 1. All regressions include city and year fixed effects. Standard errors clustered at the court level are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

5.3.2 Age cohorts

We next investigate whether the empowering effect of female-advantaged export composition varies across age cohorts. We hypothesize that younger women are more re-

sponsive to these economic opportunities in their marital decisions for two reasons. First, younger cohorts are generally more receptive to shifting social norms around marriage that accompany trade openness, whereas older cohorts tend to hold more entrenched traditional views. Second, the economic returns to a favorable labor market likely accrue disproportionately to younger, working-age women with greater labor market attachment (Li, 2021). This is consistent with evidence that economic empowerment affects marital stability primarily among younger cohorts (Bobonis, 2011).

To test this hypothesis, we partition the sample into four age cohorts based on the plaintiff’s age at filing: 20–29, 30–39, 40–49, and 50 and above. Table 5 reports the results for each subsample. The coefficient on *exp_inten_overallfemale* is positive and statistically significant at the 1% level for the 20–29 cohort (Column (1)), with a magnitude of 0.028 (more than twice the baseline estimate). This indicates that the empowering effect of female export intensity is concentrated among the youngest women in our sample.

Table 5. The difference across age cohorts

	Plf_female			
	20–29 (1)	30–39 (2)	40–49 (3)	≥50 (4)
<i>exp_inten_overallfemale</i>	0.028*** (0.008)	0.007 (0.009)	0.003 (0.011)	0.020 (0.015)
Case and City Controls	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	63,797	85,976	54,385	20,039
Adj. R^2	0.061	0.049	0.053	0.058
Empirical p-values		(2) – (1) 0.022	(3) – (1) 0.020	(4) – (1) 0.350

Note: This table reports subsample results based on the age of plaintiffs. The dependent variable is a dummy indicating whether the litigation is initiated by a woman. Columns (1) - (4) correspond to four cohorts: 20-29, 30-39, 40-49, and above 50. Control variables are the same as in Table 1. All regressions include city and year fixed effects. Standard errors clustered at the court level are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

By contrast, the coefficients for the 30-39 and 40-49 cohorts (Columns (2) and (3)) are statistically insignificant and close to zero. The coefficient for the 50-and-above cohort

(Column (4)) is positive but statistically insignificant, likely due to a smaller sample size and potentially different life-cycle considerations. Permutation tests for equality of coefficients across cohorts confirm that the effect for the 20–29 cohort is significantly larger than that for the 30–39 cohort ($p = 0.022$) and the 40–49 cohort ($p = 0.020$).

These results indicate that the empowerment effect of female export intensity operates primarily through younger women, the most direct beneficiaries of improved labor market conditions and the least constrained by traditional marital norms. For older cohorts with weaker labor market attachment, the economic mechanism has little bearing on divorce decisions. This age heterogeneity sharpens the baseline finding by pinpointing the demographic group through which the empowerment channel operates.

5.3.3 The role of children

The presence of minor children is a crucial factor in divorce decision. We explore how the empowering effect of female export intensity interacts with this crucial life-cycle dimension. Ethical values rooted in Chinese cultural traditions emphasize the role of women in the family, especially in caring for children. Many women remain in unsatisfying marriages to prioritize their children’s well-being, often delaying divorce until their children become adults. Beyond cultural constraints, economic considerations compound this barrier: courts tend to award custody to the financially stronger parent, and women with limited income may fear losing custody or being unable to support their children following dissolution.

We hypothesize that economic independence gained from specialization in female-skill-intensive exports alleviates these concerns, making single motherhood financially more viable and thereby lowering the threshold for women with dependent children to initiate divorce. Columns (1) and (2) of Table 6 compare cases with and without minor children. The coefficient on *exp_inten_overallfemale* is positive and statistically significant only in the subsample with children (Column (2)), while the effect is statistically insignificant for cases without children (Column (1)). Although the difference between the two coefficients is not statistically significant ($p = 0.284$), the pattern is consistent with the empowering effect being most pronounced for mothers, who face the highest economic

barriers to divorce.

We further examine heterogeneity by children’s age, motivated by a specific feature of Chinese family law. The Civil Code presumptively awards custody of children under two to the mother, largely removing custody uncertainty as a barrier to exit. For children aged two and older, custody is contested and typically determined by relative financial standing — precisely the period of highest child-rearing costs. We therefore expect the empowerment channel to be most salient for mothers of children in this age range. The results in Columns (3) and (4) align with our legal-institutional hypothesis. The coefficient is positive and statistically significant at the 5% level for mothers of children aged two and older, whereas it is statistically insignificant and close to zero for mothers of children under two. A permutation test confirms that the difference is statistically significant ($p = 0.010$).

Table 6. The role of children

	Plf_female			
	No Child (1)	Has Child (2)	Age 2–18 (3)	Age \leq 2 (4)
exp_inten_overallfemale	0.008 (0.006)	0.013** (0.006)	0.015** (0.006)	-0.006 (0.012)
Case and City Controls	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	199,180	188,423	133,357	32,698
Adj. R^2	0.050	0.047	0.050	0.038
Empirical p-values	0.284		0.010	

Note: This table reports subsample results by children’s status. The dependent variable is an indicator for whether the litigation was initiated by a woman. Columns (1) and (2) split the sample by whether the couple has at least one child. Columns (3) and (4) restrict to cases involving children aged 2–18 and below 2, respectively. Control variables are the same as in Table 1. All regressions include city and year fixed effects. Standard errors clustered at the court level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Taken together, these results suggest that the empowerment effect is most binding where financial and legal barriers are highest, namely, for mothers of children aged two and older.

5.4 Court Decisions

Our analysis so far has focused on women’s propensity to initiate divorce. Whether initiation translates into a successful outcome, however, is far from guaranteed. The judicial process itself presents a significant hurdle: in our sample, only 33% of all litigated divorces are granted by the court, and this share falls to 31% for female-initiated cases compared to 37% for male-initiated cases. This section investigates whether the economic empowerment associated with female export intensity extends beyond the filing decision to shape judicial outcomes.

To do so, based on the judicial judgment, we construct a binary dependent variable, *is_divorce*, equal to one if the court approves the divorce petition, and regress it on the female export intensity index with progressively richer sets of case and city controls. Columns (1) and (2) of Table 7 report the direct effect of export intensity on the probability of judicial approval. The coefficient on *exp_inten_overallfemale* is statistically insignificant and close to zero. This suggests that a city’s reliance on female-advantaged exports does not have a discernible average effect on the likelihood that a judge will approve a divorce claim.

This average effect, however, masks important heterogeneity. In Columns (3) and (4), we introduce an indicator for whether the plaintiff is female (*plf_female*) and interact it with the export intensity measure. Two points are worthy of note. First, the negative and significant coefficient on the *plf_female* dummy confirms that divorce petitions filed by women are, on average, 3.2 percentage points less likely to be approved than those filed by men. This points to systemic barriers and potential judicial bias against women in divorce proceedings. Second, central to our hypothesis, the interaction term (*exp_inten_overallfemale* \times *plf_female*) is positive and statistically significant (0.007**), indicating that this judicial penalty is significantly attenuated in cities with greater female export intensity. Together, these results suggest that economic empowerment not only induces women to file for divorce but also improves their prospects of obtaining a favorable judicial outcome.

Table 7. Court decisions

	is_divorce			
	(1)	(2)	(3)	(4)
exp_inten_overallfemale	0.008 (0.010)	-0.001 (0.012)	0.001 (0.010)	-0.006 (0.012)
plf_female			-0.040*** (0.009)	-0.032*** (0.008)
exp_inten_overallfemale × plf_female			0.011*** (0.004)	0.007** (0.003)
Case and city controls	No	Yes	No	Yes
City FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	387059	387059	387059	387059
adj. R-sq	0.049	0.271	0.053	0.273

Note: The dependent variable is a dummy indicating whether the court approves the divorce claim. *plf_female* is a dummy taking the value of one if the plaintiff is a woman and zero otherwise. Control variables are the same as in Table 1. All regressions include city and year fixed effects. Standard errors clustered at the court level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6 Mechanisms

Having established a causal link between a region’s female export intensity and women’s divorce decisions, we now explore the underlying mechanisms. Prior studies have documented that social norms, economic status, household labor participation, and legal arrangements are crucial determinants of divorce (e.g., [Bargain et al., 2022](#); [Bobonis, 2011](#); [Huang et al., 2023](#); [Killewald, 2016](#); [Zhylyevskyy, 2012](#)). Trade liberalization may operate through two broad channels: by eroding traditional gender norms and affecting individual behaviors, particularly via the exchange of cultural goods ([Disdier et al., 2010](#); [Maystre et al., 2014](#)), and by improving women’s economic status through expanded employment opportunities and a narrowing gender wage gap. We test these hypotheses in turn.

6.1 Gender and Marriage Norms

Although economic incentives and social norms both give rise to purposeful behavior, they operate through distinct channels: while the former work through material returns, the latter operate through social approval or disapproval and the associated feelings of pride or shame (Lindbeck, 1997). Once internalized, norms are highly stable and exert a powerful influence over individual behavior. In China, Confucian ethics has historically dominated social life and continues to shape modern behavior (Chen et al., 2022; Fan et al., 2023). Central to this tradition is the emphasis on women's subordination within the family, codified in the doctrine of the "three obediences": obedience to father before marriage, to husband during marriage, and to son in widowhood. Women who remained chaste after a husband's death were formally honored with the designation of *lie nv* in imperial China. This legacy persists into today. Divorced women continue to face social scrutiny and judgment, which may deter them from initiating divorce even in the face of severe marital conflict.

Trade exposure has been shown to shape individual behavior across a range of outcomes, including education, marriage, and fertility (Autor et al., 2019; Blanchard and Olney, 2017; Keller and Utar, 2022). Of particular relevance here is its effect on gender norms: Li (2021) shows that export specialization can shift a country's gender equality attitudes. We conjecture that cities with greater specialization in female-skill-intensive exports will exhibit more liberal attitudes toward gender roles and divorce.

To test this, we utilize individual-level data from two nationally representative surveys: the China Family Panel Studies (CFPS) and the Chinese General Social Survey (CGSS), and examine responses to four specific statements that capture attitudes toward gender roles and the institution of marriage: i) *men prioritize career, but women prioritize family*; ii) *women's success lies more in good marriage than in their career achievement*; iii) *married people are generally happier than unmarried counterparts*; iv) *if marital conflicts cannot be resolved, divorce is the most appropriate solution*. Respondents rated their agreement with each statement on a 1-to-5 scale (1=strongly disagree, 5=strongly agree). We regress these individual-level responses on our city-level female-skill export intensity index, control-

ling for a host of individual and city-level characteristics and province fixed effects.

Table 8 presents the estimation results, disaggregated by gender. The findings provide broad support for the social norms channel. For the first statement, "women prioritize family" (Columns (1) and (2)), we find negative and statistically significant coefficients for both men and women. This indicates that in cities with a higher female export intensity, the general population is less likely to endorse traditional gender roles. Notably, the effect is nearly twice as large for women, suggesting that female attitudes are particularly responsive to these economic shifts. This pattern is reinforced in the subsequent columns. For statements emphasizing the primacy of marriage for women's success and happiness (Columns (3)-(6)), the coefficients are again consistently negative and statistically significant for the female subsample. This suggests that the economic empowerment associated with the local export composition leads women to place less weight on marriage as the primary determinant of their well-being.

Finally, Columns (7) and (8) examine attitudes toward divorce directly. Here, we find a positive and highly significant coefficient for women. It means that, in cities with a greater reliance on female-advantaged skills, women are more likely to agree that divorce is an appropriate solution to an irresolvable marital conflict. No such effect is found for men.

These results indicate that greater female export intensity erodes traditional gender norms, making women less likely to endorse traditional gender roles and more accepting of divorce. This normative shift likely constitutes an important channel through which export specialization empowers women in their marital decisions.

Table 8. Mechanism: Gender and marriage norms

	CFPS				CGSS			
	Men prioritize career, but women prioritize family		Women's success lies more in good marriage		Married people are happier than singles		Divorce is best if marriage fails	
	Male (1)	Female (2)	Male (3)	Female (4)	Male (5)	Female (6)	Male (7)	Female (8)
exp_inten_overallfemale	-0.0239* (0.0130)	-0.0411*** (0.0137)	-0.0287* (0.0154)	-0.0338** (0.0152)	-0.0214 (0.0311)	-0.0676* (0.0352)	-0.0035 (0.0378)	0.0904** (0.0392)
Respondent and city controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prov FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	12178	12658	12134	12633	2657	2482	2685	2489
adj. R-sq	0.048	0.134	0.037	0.088	0.031	0.053	0.019	0.031

Note: This table examines the effect of export composition on individuals' attitudes toward marriage and divorce. We utilize several survey questions from the 2014 China Family Panel Studies (CFPS) and the 2012 Chinese General Social Survey (CGSS). Each column header corresponds to a specific survey question. Respondent controls include a dummy indicating whether the respondent has a child, a dummy for marriage, and a set of age cohort dummies (i.e., 20-30, 30-40, 40-50, and above 50). We include province fixed effects. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.2 Housework and Personal Income

Beyond social norms, female-skill-intensive export composition may directly empower women by improving labor market conditions and reshaping the intra-household allocation of time. The sociological literature has documented that the division of household labor and relative earnings are key determinants of marital stability (Killewald, 2016; Ruppanner et al., 2018).

Using individual-level data from the CFPS, we examine the effect of female export intensity on self-reported housework duration and personal income, with results disaggregated by gender reported in Table 9. Columns (1) and (2) examine housework duration. We find that greater female export intensity is associated with a large and statistically significant reduction in women’s housework time, while the effect on men is negligible and statistically insignificant. This asymmetry suggests that as women’s labor market opportunities expand, they reallocate time away from domestic labor without a corresponding increase in men’s participation.

Table 9. Mechanism: Housework participation and personal income

	Housework duration		Personal income	
	Female (1)	Male (2)	Female (3)	Male (4)
exp_inten_overallfemale	-0.0791*** (0.0214)	-0.0126 (0.0205)	0.2632*** (0.0251)	0.1435*** (0.0266)
Respondent and city controls	Yes	Yes	Yes	Yes
Prov FE	Yes	Yes	Yes	Yes
N	13079	12781	6608	7648
adj. R-sq	0.129	0.078	0.591	0.456

Note: The dependent variable in columns (1) and (2) is the number of hours spent on housework as reported by female and male respondents. The dependent variables in columns (3) and (4) are the personal income of female and male respondents, respectively. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Columns (3) and (4) turn to personal income. Female export intensity significantly raises income for both women and men, likely reflecting broader agglomeration effects.

The effect is substantially larger for women, however. A permutation test confirms that the gender difference in coefficients is significant at the 1% level.

These results paint a consistent picture of economic empowerment: in cities with greater female export intensity, women work less at home, earn more in the market, and experience a narrowing of the intra-household income gap. This enhanced economic standing plausibly constitutes a key mechanism driving women's increased willingness to exit unsatisfying marriages.

6.3 Family Expenditure

If greater female export intensity enhances women's economic standing and bargaining power, we would expect this to be reflected in household consumption patterns, specifically, a reallocation of expenditure toward goods and services preferred by women.

To test this hypothesis, we draw on detailed household expenditure data from the CFPS, examining the effect on total expenditure and on two distinct components: "female-oriented" and "gender-neutral" goods. Following a similar logic of [Guo et al. \(2020\)](#), who classify alcohol and tobacco as husband-oriented expenditure, we categorize "entertainment", "clothing and accessories", and "personal care and beauty" as female-oriented, reflecting conventional patterns in Chinese households whereby men disproportionately spend on alcohol and tobacco while women spend more on apparel and personal care.

Table 10 presents the results. First, Column (1) shows that female export intensity is positively and significantly associated with higher total household expenditure, consistent with the income gains documented above. The key findings are in the subsequent columns. Columns (2) - (4) show that greater female export intensity is associated with significant increases across all three categories of female-oriented expenditure, providing direct evidence that women translate improved economic standing into consumption aligned with their own preferences.

Table 10. Mechanism: Family expenditure

	Total	Entertainment	Clothing, shoes, and accessories	Personal care and beauty	Household durables	Education and training	Healthcare
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
exp_inten_overallfemale	0.0869*** (0.0112)	0.1713*** (0.0486)	0.0830*** (0.0253)	0.1014*** (0.0283)	0.0648 (0.0454)	0.0022 (0.0498)	-0.0037 (0.0353)
Family and city controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prov FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10817	10379	10607	10739	10797	10751	10708
Adj. R^2	0.255	0.174	0.130	0.104	0.031	0.189	0.048

Note: This table examines the effect of export composition on household expenditure. Each column header specifies the category of expenditure used as the dependent variable. Family controls include the family size, a dummy indicating whether the family has a child, a dummy indicating whether any member works in the agricultural sector, and a dummy indicating whether any member works in the private sector. We control for province fixed effects in all regressions. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

By contrast, Columns (5) - (7) show no significant relationship between female export intensity and spending on gender-neutral goods, including durables, education, and healthcare. This divergence is informative. Economic empowerment does not uniformly scale household spending but systematically reorients consumption toward female-preferred categories. This shift in revealed preferences provides evidence of women's increased intra-household bargaining power, a channel through which they gain the agency to pursue major life decisions, including divorce.

Viewed together, the mechanism results align with the channels highlighted in Propositions 1 and 3, Section 3. The income results indicate an improvement in women's relative economic position, the expenditure results suggest greater intra-household bargaining weight, and the norm results are consistent with a decline in the stigma cost of female-initiated divorce.

7 Conclusions

Divorce is an important economic and psychological decision. The right to initiate a divorce, though legally recognized, remains largely unrealized for women worldwide. Studying Chinese women's divorce decisions offers a novel lens for understanding gender inequality, as Confucianism, a cornerstone of Chinese culture, imposes stringent obligations on women within marriage. As globalization in trade and production activities has expanded substantially over recent decades, an extensive literature has examined its impact on various economic outcomes, including wages, norms, employment, and family decisions. This paper documents that international trade, or more precisely trade specialization, matters for divorce decisions.

To rationalize our empirical work, we develop a simple model of marital dissolution, showing that a female-biased trade shock affects women's divorce decisions through three channels: outside option, intra-household bargaining, and stigma/social norms. Using a comprehensive dataset of divorce litigation records from China, we find that women in cities specializing in female-skill-intensive exports are more likely to initiate divorce. The results are robust to provincial-level aggregate divorce data, census data,

and alternative measures of industry-level female intensity. We construct a Bartik IV to alleviate endogeneity problems. We analyze several marital facts recorded in divorce cases. Trade specialization is more helpful for women whose husbands engage in indebtedness, drug abuse, and domestic violence, for young women, and for mothers of children aged 2 to 18. Mechanism tests suggest that trade specialization erodes local people's gender and marriage norms, reduces women's housework burden, raises female income, and increases female-oriented household expenditure.

Our findings highlight the role of globalization, particularly trade specialization, in enhancing women's empowerment. Gender inequality in marriage and divorce carries broader economic consequences, including effects on saving rates, housing prices, and crime ([Wei and Zhang, 2011](#); [Cameron et al., 2019](#)). Thus, this paper provides valuable policy implications. As export composition shapes female labor market advantage and social norms, governments can leverage industrial policies to reach a targeted marriage or divorce equilibrium. This consideration is particularly salient during periods of heightened geopolitical risks and trade protectionism, such as the US-China trade war or the Russia-Ukraine conflicts. Policymakers should carefully evaluate the consequences for women's economic opportunities and empowerment.

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Appendix A

Table A1. Robustness check: 2015 census data (individual level)

	is_divorce		
	Full sample (1)	Men (2)	Women (3)
exp_inten_overallfemale	0.0007*** (0.0002)	-0.0002 (0.0002)	0.0015*** (0.0002)
abovecollege	-0.0068*** (0.0004)	-0.0107*** (0.0005)	-0.0027*** (0.0006)
minority	-0.0016** (0.0006)	-0.0018** (0.0009)	-0.0015* (0.0008)
age20_30	0.0060*** (0.0003)	0.0071*** (0.0004)	0.0049*** (0.0004)
age30_40	0.0232*** (0.0004)	0.0275*** (0.0006)	0.0187*** (0.0005)
age40_50	0.0220*** (0.0004)	0.0247*** (0.0005)	0.0192*** (0.0005)
age50above	0.0097*** (0.0003)	0.0108*** (0.0004)	0.0087*** (0.0004)
gdpgrowth	0.0046 (0.0038)	0.0090* (0.0051)	-0.0001 (0.0050)
lnpop	-0.0023*** (0.0003)	-0.0026*** (0.0004)	-0.0020*** (0.0004)
employrate_female	0.0199*** (0.0019)	0.0204*** (0.0026)	0.0193*** (0.0023)
Prov FE	Yes	Yes	Yes
N	1282578	650572	632006
Adj. R^2	0.007	0.009	0.007

Note: The table reports estimates using the individual-level data from the 2015 census. The dependent variable is a dummy taking the value of one if the individual is divorced and zero otherwise. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A2. Robustness check: Alternative measures of female intensity

	plf_female											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
female_labor	0.002*** (0.001)											
overall_skill2		0.012** (0.005)										
overall_skill3			0.012** (0.005)									
overall_skill4				0.011** (0.005)								
overall_skill5					0.011** (0.005)							
overall_skill6						0.011** (0.005)						
overall_skill7							0.011** (0.005)					
overall_skill8								0.011** (0.005)				
overall_skill9									0.011** (0.005)			
overall_skill10										0.011** (0.005)		
overall_skill11											0.011** (0.005)	
overall_skill12												0.012** (0.005)
Case and city Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	387611	388040	388040	388040	388040	388040	388040	388040	388040	388040	388040	388040
Adj. R ²	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048

Note: The dependent variable is a dummy indicating whether the divorce is initiated by a woman. In column (1), we use the industry-level female employment rate to proxy for the female intensity in equation (17), and in columns (2) - (11), we use 11 alternative sets of gender-oriented skills in Li (2021) to compute female intensity. Control variables are the same as in Table 1. All regressions include city and year fixed effects. Standard errors clustered at the court level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A3. Robustness of Bartik IV: Controlling for differential trends

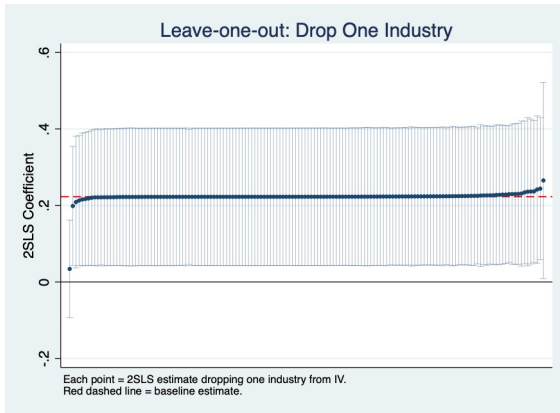
	Plf_female				
	Baseline (1)	Export × Year (2)	Divorce × Year (3)	OldDep × Year (4)	All (5)
Panel A					
exp_inten_female	0.223** (0.109)	0.279** (0.128)	0.224** (0.109)	0.264** (0.130)	0.264** (0.114)
N	387,407	387,407	387,407	387,407	387,407
KP F-stat	10.660	8.366	10.861	10.041	10.556
Panel B					
exp_inten_overallfemale	0.251* (0.133)	0.325* (0.176)	0.253* (0.132)	0.275* (0.150)	0.313* (0.165)
N	387,407	387,407	387,407	387,407	387,407
KP F-stat	8.813	6.598	9.104	7.430	7.014
Case Controls	Yes	Yes	Yes	Yes	Yes
City Controls	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

Note: All columns report 2SLS estimates. The endogenous variable in Panel A is *exp_inten_female* and in Panel B is *exp_inten_overallfemale*, instrumented by the corresponding Bartik IV. Columns (2)-(4) augment the baseline specification with interactions between year indicators and, respectively, the regional level base-year export-to-GDP ratio, the number of divorces (in logs), and the old-age dependency ratio. Column (5) includes all three sets of interactions simultaneously. Control variables are the same as in Table 1. All regressions include city and year fixed effects. Standard errors are clustered at the court level and reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

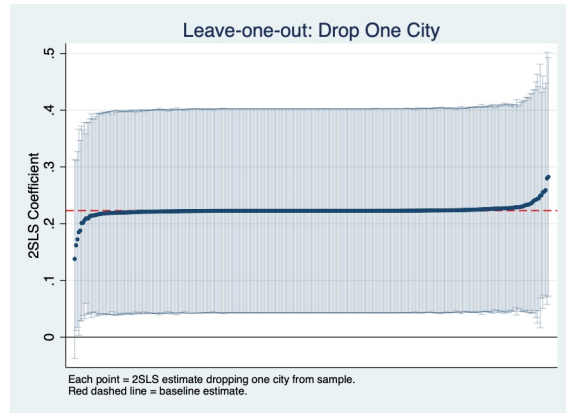
Table A4. Robustness of Bartik IV: BHJ shock-robust standard errors

	<i>exp_inten_female</i>	<i>exp_inten_overallfemale</i>
Coefficient	0.223	0.251
Baseline SE	(0.109)	(0.133)
BHJ Shock-Robust SE	(0.119)	(0.110)
<i>p</i> -value (BHJ)	0.061	0.023

Note: This table reports the baseline 2SLS coefficients alongside two sets of standard errors. Baseline SE are clustered at the court level. BHJ Shock-Robust SE are computed following [Borusyak et al. \(2022\)](#), clustering at the industry-shock level to account for cross-regional error correlation induced by common industry-level demand shocks. *p*-values are computed using the BHJ shock-robust standard errors.



(A) Leave-one-out: by industry



(B) Leave-one-out: by city

Figure A1. Robustness of Bartik IV: Leave-one-out

Notes: Panel A presents leave-one-out estimates obtained by dropping one industry (SIC 3-digit code) at a time from the construction of the Bartik instrument in equation (19) and re-estimating the 2SLS specification. Panel B presents leave-one-out estimates obtained by dropping one city at a time from the estimation sample. Each point represents the 2SLS coefficient on the female skill intensity measure, with 95% confidence intervals shown as vertical bars. The red dashed line indicates the baseline estimate.

Appendix B

In this paper, we mainly draw on the divorce verdicts provided by China Judgment Online (CJO), the official website established by the Supreme People’s Court (SPC) in late 2013, to carry out our empirical analysis. Owing to its comprehensive and up-to-date coverage of a wide range of judicial cases in China, this dataset has drawn particular attention from scholars in recent law and economics studies, which utilize different categories of lawsuits. For example, [Cao et al. \(2023\)](#) gathers all available documents on *administrative* litigation and examines the probability of successfully suing local governments; [Ma et al. \(2025\)](#) focuses on *criminal* cases to study the effect of export slowdown on social stability; [Liu et al. \(2022\)](#) identify more than 6 million *civil* lawsuits between firms to examine the effect of judicial independence reform on economic integration, and more relevantly; [Chen et al. \(2025\)](#) captures the disadvantage of female plaintiffs relative to male plaintiffs in civil cases.

For our analysis, we restrict our sample to divorce litigation ranging from 2014 to 2016. The choice of period is intentional. First, the judicial documents were publicly available in late 2013 for a small set of regions, so we chose the year 2014 as the starting point. Second, we end our period in 2016, as over 80% of divorce litigation lacks full-text judgments from 2017 onward. The move toward tighter disclosure likely coincides with governmental attempts to support social stability and raise fertility rates. The concealment of specific information in divorce cases also serves, to some extent, to protect the minors involved. We collected 904,613 divorce cases, of which 884,399 were first-instance cases, and 761,977 divorce cases with available plaintiff and defendant names. Furthermore, we retain only cases with available information on the gender of plaintiffs (468,441), court location, and a variety of other case characteristics and city-level variables specified in Section 4. These procedures yield a final sample of 387,604 cases, covering 2,059 counties and 250 prefectures in China.

Though prior studies confirm broad CJO coverage, readers may wonder whether divorce litigation is an exception. Thus, to ensure robustness, we also collected the provincial divorce data from *the China Civil Affairs Statistical Yearbook*, which has been introduced

in Section 5.2. Here, we depict the number of court-adjudicated divorces from the Yearbook and the number of divorce lawsuits from CJO across provinces in Panels A and B of Figure B1. Despite the Yearbook covering finalized divorces and the CJO documenting divorce filings, the two figures display a broadly similar geographic pattern.

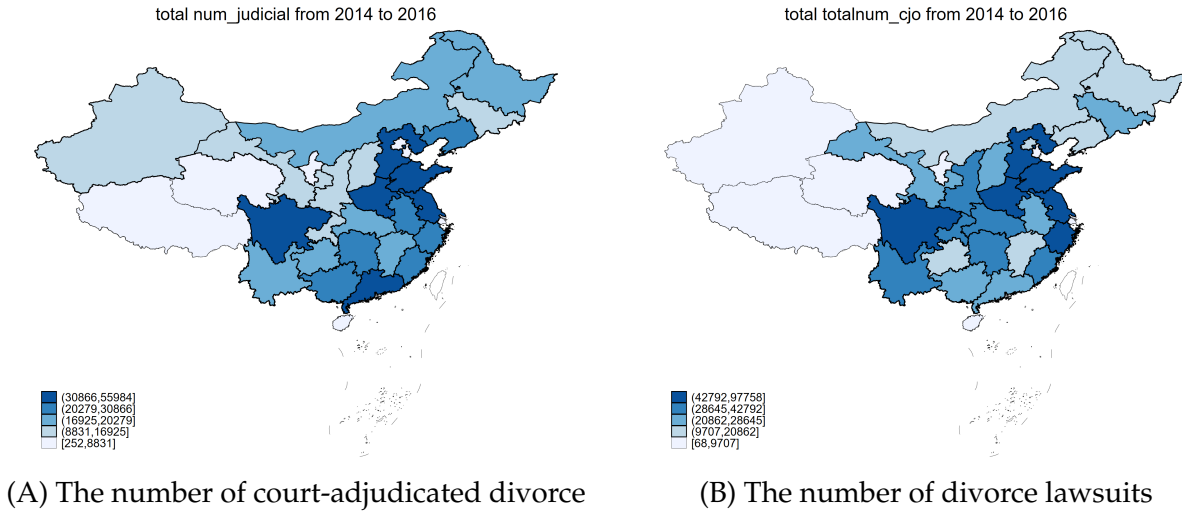


Figure B1. Geography distribution of divorces

Notes: Panel A plots the distribution of the total number of court-adjudicated divorce across provinces. The data are from *the China Civil Affairs Statistical Yearbook*. Panel B plots the distribution of the total number of divorce lawsuits across provinces. The data are from the China Judgment Online (CJO). A province with more (fewer) divorces is shaded in darker (lighter) blue.

Shandong province has the highest number of divorces in China (approximately 9-10%), followed by Henan, Hebei, Sichuan, and Jiangsu. This exactly implies the cultural changes and shifts in individual behavior brought about by modern economic factors. Shandong, as the birthplace of Confucius and historically the region where Confucianism was most influential, would strongly emphasize women’s family obligations. By its nature, the number of divorce lawsuits is larger than the number of court-adjudicated divorces in the Yearbook. For example, from 2014 to 2016, Henan Province recorded 75,525 divorce cases filed, but the Civil Affairs Department reports only 39,147 successful divorces, which again signifies the challenges of securing a divorce via litigation in China.

Appendix C

This appendix provides the general equilibrium micro-foundations for Lemma 1 in Section 3.1.

1. Unit Cost Functions and Prices

Under perfect competition, price equals unit cost in both sector 1 and sector 2. The log-linearized relationships between product prices (p^1, p^2) and factor wages (w_f, w_m) are given by:

$$\hat{w}_f = \frac{1-\beta}{\alpha-\beta}\hat{p}^1 - \frac{1-\alpha}{\alpha-\beta}\hat{p}^2 \quad (\text{C.1})$$

$$\hat{w}_m = \frac{-\beta}{\alpha-\beta}\hat{p}^1 + \frac{\alpha}{\alpha-\beta}\hat{p}^2 \quad (\text{C.2})$$

where $\hat{x} \equiv d \ln x$ and $\alpha > \beta$. Factor wages depend on both prices.

2. Domestic Demand and Supply

Consumers maximize a CES utility function $U = [\phi^1(C^1)^{(\sigma-1)/\sigma} + \phi^2(C^2)^{(\sigma-1)/\sigma}]^{\sigma/(\sigma-1)}$ over the two goods. Expenditure minimization yields the demand functions:¹¹

$$C^1(p^1, p^2, I) = (\phi^1)^\sigma (p^1)^{-\sigma} \mathcal{P}^{\sigma-1} I \quad (\text{C.3})$$

$$C^2(p^1, p^2, I) = (\phi^2)^\sigma (p^2)^{-\sigma} \mathcal{P}^{\sigma-1} I \quad (\text{C.4})$$

where the price aggregate index \mathcal{P} satisfies:

$$\mathcal{P}(p^1, p^2) = \left((\phi^1)^\sigma (p^1)^{1-\sigma} + (\phi^2)^\sigma (p^2)^{1-\sigma} \right)^{1/(1-\sigma)} \quad (\text{C.5})$$

The domestic supply functions for both sectors are derived from the production tech-

¹¹The domestic demand of each good (C^1 and C^2) decreases as its price rises.

nologies and factor market clearing condition:¹²

$$S^1(p^1, p^2) = A^1 \left[\rho^1(p^1, p^2) \right]^\alpha \cdot L_m^1(p^1, p^2), \quad (\text{C.6})$$

$$S^2(p^1, p^2) = A^2 \left[\rho^2(p^1, p^2) \right]^\beta \cdot L_m^2(p^1, p^2). \quad (\text{C.7})$$

where the optimal female-to-male labor ratios, ρ^1 and ρ^2 , are defined as:

$$\rho^1(p^1, p^2) \equiv \frac{L_f^1}{L_m^1} = \frac{\alpha}{1-\alpha} \cdot \frac{w_m}{w_f} = \frac{\alpha}{1-\alpha} \cdot \left(\frac{\kappa_2}{\kappa_1} \cdot \frac{p_1}{p_2} \right)^{-1/(\alpha-\beta)}, \quad (\text{C.8})$$

$$\rho^2(p^1, p^2) \equiv \frac{L_f^2}{L_m^2} = \frac{\beta}{1-\beta} \cdot \frac{w_m}{w_f} = \frac{\beta}{1-\beta} \cdot \left(\frac{\kappa_2}{\kappa_1} \cdot \frac{p_1}{p_2} \right)^{-1/(\alpha-\beta)}. \quad (\text{C.9})$$

Parameters $\kappa_1 = \frac{1}{A^1} \left(\frac{1}{\alpha} \right)^\alpha \left(\frac{1}{1-\alpha} \right)^{1-\alpha}$, $\kappa_2 = \frac{1}{A^2} \left(\frac{1}{\beta} \right)^\beta \left(\frac{1}{1-\beta} \right)^{1-\beta}$ are constant.

3. Relative Price and Wage Changes

Foreign demand for the domestic goods in sector $j \in \{1, 2\}$ follows an isoelastic form:

$$\Phi(p^j, Z^j) = Z^j \cdot (p^j)^{-\varepsilon}, \quad \varepsilon > 1, \quad (\text{C.10})$$

where Z^j is the **external demand shock parameter** (trade agreement, trade barrier reduction, etc.) and ε is the foreign price elasticity. In our analysis, we assume that the demand shock to the female-intensive sector 1, Z^1 , increases (denoted simply as Z in the

¹²Factor market clearing requires:

$$\begin{aligned} L_f^1 + L_f^2 &= \bar{L}_f \\ L_m^1 + L_m^2 &= \bar{L}_m. \end{aligned}$$

Using $L_f^j = \rho^j \cdot L_m^j$ for $j \in \{1, 2\}$ and substituting into the previous two equations, we solve male employment in sectors 1 and 2 as:¹³

$$\begin{aligned} L_m^1(p^1, p^2) &= \frac{\bar{L}_f - \rho^2(p^1, p^2)\bar{L}_m}{\rho^1(p^1, p^2) - \rho^2(p^1, p^2)} \\ L_m^2(p^1, p^2) &= \frac{\bar{L}_f - \rho^1(p^1, p^2)\bar{L}_m}{\rho^2(p^1, p^2) - \rho^1(p^1, p^2)} \end{aligned}$$

Note that L_m^1 and L_m^2 depend on (ρ^1, ρ^2) , which are negatively correlated with the relative price p^1/p^2 . Therefore, the supply of each good (S^1 and S^2) increases as its price rises.

subsequent derivations for the external demand shock), while Z^2 remains unchanged.

Under the balanced trade condition, simultaneous clearing of both goods markets renders one market-clearing condition redundant. Consequently, the general equilibrium of the goods market determines only the relative price. We therefore normalize the price of sector 2 goods as the numéraire, i.e., $p_2 \equiv 1$, which implies $\hat{p}_2 = 0$. Let $p \equiv p_1$ denote the relative price of good 1. The general equilibrium of this open economy can be solely determined by the market clearing condition for sector 1:

$$S^1(p, 1) - C^1(p, 1, I) = Z \cdot p^{-\epsilon} \quad (\text{C.11})$$

To evaluate the impact of a positive external demand shock ($dZ > 0$) on the relative price, we totally differentiate equation (C.11) with respect to Z and p :

$$\frac{\partial S^1}{\partial p} dp - \frac{\partial C^1}{\partial p} dp = p^{-\epsilon} dZ - \epsilon Z p^{-\epsilon-1} dp \quad (\text{C.12})$$

Rearranging the terms to solve for dp/dZ , we obtain:¹⁴

$$\frac{dp}{dZ} = \frac{p^{-\epsilon}}{\frac{\partial S^1}{\partial p} - \frac{\partial C^1}{\partial p} + \epsilon Z p^{-\epsilon-1}} > 0 \quad (\text{C.13})$$

which demonstrates that a positive external demand shock strictly increases the relative price of good 1. Since p_2 is fixed at 1 ($\hat{p}_2 = 0$), the proportional change in prices satisfies $\hat{p}_1 > \hat{p}_2 = 0$. Equations (C.1) and (C.2) imply that the change in the gender wage gap satisfies:

$$\widehat{\left(\frac{w_f}{w_m}\right)} = \hat{w}_f - \hat{w}_m = \frac{\hat{p}_1 - \hat{p}_2}{\alpha - \beta} > 0 \quad (\text{C.14})$$

where the last inequality stems from $\alpha > \beta$ and $\hat{p}_1 > \hat{p}_2$.

¹⁴Note that the impact of price on supply is positive (i.e., $\frac{\partial S^1}{\partial p} > 0$) and the impact of price on demand is negative (i.e., $\frac{\partial C^1}{\partial p} < 0$). Therefore, $\frac{dp}{dZ}$ is larger than zero.