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Gender Norms and Female Labor Supply: Evidence from Export Shocks in Vietnam*

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Abstract

We study how economic development affects female labor force participation, focusing on the role of gender norms. Analyzing quasi-random variation in provincial exports in reunified Vietnam from 2002 to 2018, we find that positive economic shocks reduced women's labor market

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engagement, particularly among married women from wealthier households and those with husbands in more skilled occupations. This trend is more pronounced in the South (formerly capitalist) than in the North (always socialist), and among native Southerners compared to Northerners relocated to the South after the war. Our findings highlight how gender role attitudes shape women's responses to rising incomes.

JEL codes: *J16, J22, O12*

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1. Introduction

The relationship between economic development and female labor force participation (FLFP) is an important topic that has received considerable attention. While many studies focus on testing the U-shaped relationship between FLFP and income (Boserup, 1970; Goldin, 1995), they also reveal notable variations in FLFP among countries with similar income levels, highlighting the influence of additional factors on women's economic engagement.

In this paper, we explore how economic growth affects women's labor market engagement, emphasizing the influence of social norms. We examine the context of reunified Vietnam, particularly during the trade liberalization of the 2000s and its subsequent rapid growth. Following the US-Vietnam Bilateral Trade Agreement in 2002 and Vietnam's entry to the World Trade Organization in 2007, the country has been experiencing rapid export expansion (see Figure A1) and large inflows of foreign direct investment (FDI). Our investigation centers on how exogenous increases in economic opportunities affect women's labor market engagement and how these

effects are moderated by prevailing gender role attitudes (e.g., the male breadwinner model vs. gender-egalitarian perspectives).

Vietnam serves as a compelling case study for analyzing shifts in female labor supply in the context of economic development. With a female-to-male labor force participation ratio exceeding 90%, Vietnam has one of the smallest gender gaps in labor force participation (LFP) worldwide, surpassing even advanced economies such as Sweden, the US, the UK, and Germany (Figure A2). However, since the 2000s, the gender gap in LFP has begun to widen, coinciding with rapid export expansion and rising incomes. Given the ongoing policy discussions aimed at retaining female workers in the labor market, it is important to understand the conditions under which women's LFP may decline as incomes rise.

Our analysis draws on biennial microdata from the Vietnam Household Living Standards Surveys (VHLSS) for the period 2002–2018, combined with trade data from the United Nations Comtrade Database. To proxy for the exogenous progress of the local economy, we use predicted exports by province and year based on a Bartik instrument, allocating nationwide industry-specific exports to different provinces according to their initial (i.e., pre-2002) industry composition, similar to the approach used by Topalova (2010), Autor et al. (2013), and Kovak (2013). We then relate our outcomes of interest, such as individuals' working status, to the province-year level predicted exports within a difference-in-differences (DID) framework, conditioning on province FE and year FE.

Our main findings show that an increase in predicted provincial exports—referred to as "export shock" or "export exposure" for simplicity—leads to a significant decrease in women's employment, while men's employment remains largely unaffected. Specifically, provinces with one standard deviation (SD) higher export shock experience a decline in women's working status

by 2.7 percentage points (pp). This shift translates to a widening of the gender gap in LFP by 3 pp (or 56% of the mean gender gap).

One might suspect that the decline in women's employment is due to demand-driven displacement from trade liberalization, but our analysis does not support this. We find that export shocks promote structural changes in labor allocation from agriculture to manufacturing and services. Additionally, these shocks shift workers into the formal sector, aligning with findings in McCaig and Pavcnik (2015, 2018).[1] Importantly, female workers benefit more than male workers from expanding economic opportunities, with a swifter transition out of agriculture and into manufacturing and services. Specifically, a one SD increase in export exposure disproportionately raises women's employment (relative to men) in manufacturing by 1.4 pp (9.3% of the female average) and in services by 1.8 pp (5.5% of the female average). Overall, the evidence suggests that the decline in women's participation is not due to adverse labor demand shocks disproportionately affecting them.

[1] McCaig and Pavcnik (2015, 2018) demonstrate that within just two years of the US-Vietnam Bilateral Trade Agreement (UVBTA) in December 2001, reductions in US tariffs on Vietnamese exports facilitated the reallocation of manufacturing workers to the formal sector, resulting in larger, more productive firms and higher wages. Our findings align with these effects, revealing similar patterns of export-induced formalization of employment based on nearly two decades of data (2002–2018). Recent research by McCaig et al. (2023) supports these conclusions. Additionally, we document a trade-induced structural shift from agriculture to manufacturing and services.

Why would Vietnamese women reduce their labor supply amid expanding economic opportunities? We hypothesize that this relates to the balance between income and substitution effects, as well as household labor specialization. Our analysis reveals that the decline in female labor supply is driven entirely by married women, while single women display patterns similar to men. Among married women, the negative impact of export shocks is most pronounced among those from wealthier households and those with husbands in more skilled occupations, where the income effect (encouraging women to focus on home production) is more likely to outweigh the substitution effect (encouraging market work due to higher opportunity costs) resulting from the export shock.

Based on these findings, we further hypothesize that whether the income or substitution effect dominate for a given increase in income may depend on prevailing gender role attitudes in society. Specifically, we anticipate that, when faced with rising incomes, women's labor market attachment may be stronger in societies with gender-egalitarian norms than in those with traditional male breadwinner ideals.

Vietnam serves as a valuable context for this exploration. Before reunification in 1976, the northern and southern regions were governed by vastly different ideologies. During the Vietnam War (1954–1975), North Vietnam promoted gender equality and women's economic participation, while South Vietnam did not (Werner, 1981). Nearly 40 years after reunification, women's attachment to the labor market still varies significantly between the North and South: the LFP rate for women in the North is as high as 90%, comparable to that of men, while in the South it is around 80% (see **Figure 1**).

Our analysis reveals significant regional differences in the impact of export shocks on FLFP. While women in both regions reduce their labor supply, the decline is more pronounced in

formerly capitalist South Vietnam compared to socialist North Vietnam. Unlike Northern Vietnamese, Southerners experienced socialism more recently and to a lesser extent (see Section 2.3). Consequently, Southern Vietnamese may be more susceptible to the resurgence of the male breadwinner model, influenced by trade liberalization and the growing presence of capitalism.[2] In the North, the negative impact on female labor supply is primarily observed among women married to husbands in the top earnings quartile. This gradient is absent in the South, where women reduce their labor supply across all quartiles of household wealth and husbands' earnings. This suggests that women's labor market attachment is weaker in the South, prompting them to withdraw from the workforce as soon as it becomes financially feasible. In contrast, Northern women demonstrate stronger labor market attachment, with the income effect becoming dominant only at a higher household income threshold.

Our finding that the export-induced FLFP reduction is stronger in South Vietnam than in North Vietnam remains stable when excluding provinces in the Mekong River Delta or those historically part of the Khmer Empire, whose institutions are distinct from the rest of Vietnam (see Dell et al., 2018). We also use provincial exports predicted separately based on male-intensive and female-intensive industries to account for potential regional differences in economic structure. The results remain consistent with our baseline findings. This ensures that the North-South differences in FLFP effects are not driven by variations in the composition of exporting industries across regions, particularly regarding the female-friendliness of the jobs created.

[2] As Vietnam liberalizes its trade policies and shifts towards a market economy, its economic structure increasingly resembles the capitalist model that predominated in former South Vietnam.

The North-South differences in behavior may reflect not only the influence of past political regimes and wartime experiences but also differences in other dimensions such as geography or institutional factors. To keep such environmental conditions constant, we leverage the forced migration policy implemented in the decade following reunification, known as the New Economic Zones (NEZ) program. Enacted by the Vietnamese Communist Party for both economic and political reasons (Desbarats, 1987; Dang et al., 1997), the policy relocated millions of Northerners to previously uninhabited mountainous or rural areas that formerly belonged to South Vietnam. Because these migrants were born and raised in the North, their exposure to the socialist regime is longer than that of native Southerners currently residing in the same provinces.

Our findings indicate that, in response to provincial export shocks, the labor supply responses of the Northern-born population living in the South closely resemble those of individuals in the North, highlighting the lasting influence of wartime values. These results hold even in our most restrictive specifications, where we directly compare Northern-born and Southern-born migrants, confirming that the effects observed among individuals from the North align with those of their Northern counterparts and are not merely a function of migration status.

By examining women's labor supply responses to Vietnam's rapid export expansion from 2002 to 2018, we provide a new perspective on understanding the relationship between economic development and women's labor market engagement (see e.g., Boserup, 1970; Goldin, 1995; Mammen and Paxson, 2000; Blau and Kahn, 2013; Olivetti, 2013; Gaddis and Klasen, 2014; Ngai and Petrongolo, 2017; Klasen, 2019; Dinkelman and Ngai, 2022; Ngai et al., 2024; Haddad and Kattan, 2024). In a closely related work, Afridi et al. (2018) document a decline in married women's labor force participation (LFP) in rural India from 1987 to 2011, driven primarily by rising education and changing returns to home versus market work. We complement their findings

in two ways. First, we show a similar pattern in a setting where women's LFP exceeds 90%. Second, by exploiting North-South variation in Vietnam, we highlight the role of gender norms in shaping the income-FLFP relationship.

We also add to the growing body of literature that highlights social norms as a key determinant of women's LFP and economic inclusion (see e.g., Fernández et al., 2004; Fortin, 2005; Alesina et al., 2013; Bertrand et al., 2021; Jayachandran, 2015; Olivetti et al., 2020; Cortes et al., 2022; and Boelmann et al., 2024). In particular, we address studies exploring the impact of socialist legacies on women's labor market outcomes (see Bauernschuster and Rainer, 2012; Campa and Serafinelli, 2019; Fuchs-Schündeln and Schündeln, 2020; Lippmann et al., 2020; Boelmann et al., 2024). Our major departure from existing studies lies in our focus on the evolution of women's labor supply in response to positive economic shocks rather than static cross-sectional comparisons and in relating this to past political regimes and experiences during the Vietnam War.

In addition, we contribute to the literature on the gendered impacts of global integration (see Bussmann, 2009; Gaddis and Pieters, 2017; Juhn et al., 2013; Wang et al., 2022; Keller and Utar, 2022; Erten and Keskin, 2024) by studying export shocks in Vietnam and showing that women benefit more than men from trade openness, particularly through transitions out of agriculture and into formal employment.

Furthermore, we relate to the literature examining the labor market impacts of Vietnam's trade liberalization and export-driven growth in recent decades. While prior studies focus on key events such as the liberalization of rice trade in the 1990s (Edmonds and Pavcnik, 2005a, 2005b) or the 2001 US-Vietnam Bilateral Trade Agreement (McCaig, 2011; Fukase, 2013; McCaig and Pavcnik, 2015, 2018; Hoang and Nguyen, 2020), our research centers on the subsequent two

decades, from 2002 to 2018. By examining this more recent period, we can analyze the long-term effects of trade liberalization and export-driven growth on the Vietnamese labor market.

2. Background

2.1 Colonial era and the division of Vietnam

Vietnam has historically been a patriarchal society shaped by Confucian norms that reinforced rigid gender roles emphasizing the subordination of women. Under French colonial rule in the late nineteenth century, Vietnam was divided into three regions: Tonkin (north), Annam (center), and Cochinchina (south). Following the 1954 Geneva Accords, the country was partitioned at the 17th parallel into a socialist North and an anti-communist South. The separation was intended to be temporary, with a general election to be held by July 1956 to unify the country. Such an election was never realized, and the country remained divided over the next two decades until 1975.

2.2 Wartime, socialism, and the promotion of gender-egalitarian values in North Vietnam

Between 1954 and 1975, the socialist government in North Vietnam actively promoted women's social and political advancement. The 1949 constitution declared women equal to men (Werner, 1981), and land reforms and agricultural collectivization in the early 1950s encouraged women's equal participation in collective labor. The North also introduced paid maternity leave, which was absent in South Vietnam. Women's educational attainment in the North converged with men's for cohorts born after 1965, a milestone the South reached only after reunification (see Figure A3).

Secondly, wartime necessity during the height of the Vietnam War (1965–1973) substantially increased Northern Vietnamese women's economic and political position. With the mass mobilization of men to the army, women assumed primary labor roles and, at the same time, engaged in civil activities (Werner and Belanger, 2002). The Communist Party mandated gender

quotas, aiming for women to occupy 30% of leadership positions by 1960 and increase female labor share to at least 35% of the workforce, particularly in light industries, education, and health care (Mai and Le, 1978; Werner, 1981).

2.3 Economic and social changes in reunified Vietnam

Following the fall of Saigon, Vietnam reunified in 1976 and has since remained a socialist republic. Agricultural collectivization was extended to the South, and the country adopted a centrally planned economy (Tri, 1988; Beresford, 1988). By the late 1980s, gender parity in education had been achieved nationwide (Figure A3), alongside initiatives such as equal pay and extensive childcare provision to promote women's labor force participation (Werner, 1981).

However, the "Doi Moi" reforms initiated in 1986—which shifted Vietnam toward a "socialist-oriented market economy under state guidance"—altered the state's approach to gender roles. Men increasingly became associated with technology, while renewed emphasis was placed on women's family responsibilities. At the same time, parental leave and subsidized childcare were sharply reduced (Goodkind, 1995; Nguyen, 1999). As a result, despite sharing a common post-reunification regime, Southern Vietnamese experienced socialism later and less intensively than their Northern counterparts.[3]

Vietnam's reopening to the world economy and global integration has brought about high economic growth. Since the 2000s, Vietnam has experienced inflows of FDI and rapid export

[3] Consistent with their differential exposure to socialism and wartime experiences, Figure 1 shows higher LFP rate of Northern women (on par with men) compared to Southern women. Data from the World Values Survey for 2002, 2006, and 2019 also suggest that the Southern Vietnamese hold more conservative gender role attitudes. We come back to this point in section 6.1.

expansion due in part to the enactment of the US-Vietnam Bilateral Trade Agreement (UVBTA) in 2001 and Vietnam's entry into the World Trade Organization (WTO) in 2007 (see Figure A1).

3. Empirical Strategy

Our goal is to understand how an exogenous expansion in economic opportunities between 2002-2018 affects women's labor market engagement, and how the pattern may differ according to the prevailing gender role attitudes. To proxy for the exogenous growth of the local economy, we use predicted exports for each province and year, based on a Bartik instrument. Specifically, we allocate nationwide industry-specific exports to provinces based on their initial industry composition prior to 2002, following Topalova (2010), Autor et al. (2013), and Kovak (2013).

Consider a variable $Exposure_{pt}$, which captures the (log of) predicted export per worker for province p in year t. We construct this variable by allocating nationwide industry-specific exports in each year to provinces according to their initial industry composition (based on industry-specific shares of local employment):

$$Exposure_{pt} = \log\left(\sum_{j} \frac{L_{pj,1999}}{L_{p,1999}} \times \frac{Export_{j,t}}{L_{j,1999}}\right) \quad (1)$$

where $L_{pj,1999}$ is province p's employment in industry j in 1999, and $L_{p,1999}$ is province p's total employment in 1999.[4] The variable $Export_{jt}$ is Vietnam's nationwide total export value in industry j in year t, which we scale by nationwide initial total employment in industry j, $L_{j,1999}$, similar to Autor et al. (2013).

[4] We use 1999 to measure sectoral and provincial employment in the initial (pre-2002) period, since the Vietnamese Census 1999 is the closest to 2002, the beginning of our analysis window.

We examine how predicted provincial export shocks—hereinafter "export exposure" or "export shock" for simplicity—affect individuals' labor market outcomes, by estimating the following difference-in-differences (DID) equation:

$$y_{ipt} = \alpha_0 + \alpha_1 Exposure_{pt} + \phi_p + \psi_t + \boldsymbol{X}_{ipt}\lambda + \boldsymbol{Z}_p\gamma_t + \epsilon_{ipt} \quad (2)$$

where y_{ipt} is the labor market outcome of individual i in province p in year t, such as working status. The variable $Exposure_{pt}$ is the (log of) province-by-year level predicted exports, as constructed in equation (1). Throughout the analysis, we condition on both province fixed effects (FE) (ϕ_p) and year FE (ψ_t), accounting for province-specific and time-invariant unobservables as well as common nationwide shocks that vary over time, respectively. In addition, we control for individual-level characteristics with vector $\boldsymbol{X}_{ipt}$, which includes an indicator for ethnic Viet (the majority ethnic group), gender, a cubic polynomial in age, and four categories of education (no education, primary, lower secondary, and upper secondary or higher).

Furthermore, we condition on a vector $\boldsymbol{Z}_p$ which includes a rich set of province-level initial (1999) characteristics, allowing for its effects to differ by time (captured in γ_t). In particular, we always include the initial employment share in manufacturing (interacted with year FE) to account for the fact that export growth in Vietnam is primarily driven by the manufacturing sector (see Figure A1) and labor market trends in provinces with high versus low initial shares of manufacturing employment may systematically differ. Additionally, we control for the 1999 levels of gross output per capita in manufacturing and services, FLFP rates, and childcare supply (i.e., number of kindergarten classes per child aged 0-5), all interacting with year FE. These initial conditions further account for factors that may lead to differential evolution of female labor supply in different provinces. We cluster standard errors at the province level.

Our main coefficient of interest is α_1, which captures the effect of export exposure on labor market outcomes. Our identifying assumption is that conditional on the included controls in equation (2), there is no correlation between $Exposure_{pt}$ and ϵ_{ipt}. We argue that the validity of our identifying assumption stems from "exogenous shares" (Goldsmith-Pinkham et al., 2020). In Appendix C, we present several diagnostic tests that support the plausibility of this assumption.

To uncover the differential effects of export expansion by gender, we consider a variant of equation (2), where we additionally include the interaction between $Exposure_{pt}$ and a female indicator, $Female_i$, while allowing for gender-specific year FE ψ_{gt} (instead of year FE ψ_t). Furthermore, we also investigate North-South differences, interacting $Exposure_{pt}$ with a dummy indicating the province being in South Vietnam.

4. Data

Our main data stems from the Vietnam Household Living Standard Surveys (VHLSS) covering the period 2002-2018. The surveys are conducted every two years by the General Statistics Office (GSO) of Vietnam, with technical assistance from the World Bank. The VHLSS is nationally representative and by far the most comprehensive microdata set in Vietnam on the living standards of the population. We restrict our attention to individuals of working age (20-64) in each survey year, resulting in a total sample size of 402,833. In Table A1, we provide the average characteristics of individuals in our sample for the period 2002-2018.

Our main outcome of interest is "work," a dummy indicating whether an individual has worked at any time during the previous 12 months. We refer to this as an indicator of LFP. As Figure 1 shows, the participation rate is very high for both men and women in both North and South Vietnam. It is, however, always lowest among Southern women (around 85% in 2002, compared to 93% for the other groups—Northern men, Northern women, and Southern men), and

trending downward for this group. By industry, individuals are classified into agriculture, manufacturing, construction, or service sectors. By employer type, they are further distinguished as belonging to the formal sector (state enterprises, collectives, domestic or foreign firms) or the informal sector (self-employed or household business).

To capture the initial industry composition in 60 provinces prior to Vietnam's trade liberalization in the 2000s, we use the Vietnam Population and Housing Census 1999 (or the Census 1999), a 3% sample of the population with 2,368,167 individuals, of which 1,135,981 are in the labor force.[5] Workers are employed in 153 industries according to International Standard Industrial Classification of All Economic Activities Revision 3 (ISIC3) at 3-digit level.

To obtain Vietnam's exports by industry, we use the United Nations Comtrade database (UN Comtrade) for the period 2002-2018. UN Comtrade provides detailed trade data at the product level using the Harmonized Coding and Description System (HS). We convert products (HS 6-digit level) to industries (ISIC3 3-digit level), using concordances provided by the World Integrated Trade Solution.[6] Export values are expressed in 2018 VND based on annual VND/USD exchange rates and the Consumer Price Index obtained from Vietnam's GSO.

In equation (1), we construct the variable $Exposure_{pt}$ by combining each province's industry-specific employment shares in 1999 with nationwide export values per worker at the

[5] In 2002, Vietnam had 61 provinces. In 2003, three new provinces were created by splitting Dien Bien from Lai Chau, Dak Nong from Dak Lak, and Hau Giang from Can Tho. In 2008, Ha Tay was merged into Ha Noi, resulting in a total number of 63 provinces. Taking these changes into account, we define 60 provinces with consistent geographical boundaries over the study period.

[6] https://wits.worldbank.org/product_concordance.html.

industry-by-year level. The mean (SD) of $Exposure_{pt}$ is 17.271 (0.952), see Table A2. The table also lists the top 10 exporting provinces in 2002 and 2018, together with the top 10 provinces experiencing the largest changes in $Exposure_{pt}$ over the study period.

The exposure measure in equation (1) is a proxy of the local economy's development level, based on provincial exports driven by industry-specific global demand rather than unobserved local factors that may also correlate with women's labor market behavior. As expected, our predicted export measure $Exposure_{pt}$ is highly correlated with the actual development indicator, log gross regional domestic product (GRDP) per capita, available for 2010-2018 (**Figure 2**).

In **Figure 3**, we illustrate the spatial variation in $Exposure_{pt}$. Panel (a) shows the levels of $Exposure_{pt}$ for 2002 and 2018, respectively, while Panel (b) shows the change in $Exposure_{pt}$ between 2002 and 2018. These measures vary widely across Vietnam, as well as within both the North and South.

5. Export-induced Economic Development and Female Labor Supply

5.1 Overall effects

We start by documenting the effects of export-driven economic expansion on the LFP of Vietnamese men and women between 2002 and 2018. **Table 1** presents the estimates of equation (2) , where the dependent variable "work" indicates whether a person worked at any time in the last 12 months. The first two columns show average effects for all individuals, while the last two columns report the differential effects by gender. Individual controls include ethnicity, gender, age (in cubic), and education. All specifications except column 4 include an interaction between the initial manufacturing employment share with year FE, so that we only exploit variation in sub-industries within manufacturing and within non-manufacturing in the 1999 base period.

Column 1 shows a negative, though insignificant, effect of export exposure on work status. Column 2 adds controls for initial provincial social and economic conditions interacted with year FE to address potential confounders. Specifically, we account for initial provincial gross output per capita in manufacturing and services, initial FLFP, and childcare availability (proxied by kindergarten classes per 0–5-year-old), as these factors may shape labor supply trajectories, particularly for women. With these controls, we find that export exposure has a small but negative effect on overall LFP.

This result, however, masks substantial gender differences. Column 3 separates the effects by gender, using a triple difference approach and allowing for gender-specific year FE. In provinces with one SD (0.952) higher export exposure, equivalent to export growth of 160%, women's working status declines by 2.7 pp ((-0.031 + 0.003) * 0.952), while there is no corresponding effect for men. This translates to a 3 pp widening of the gender gap in LFP, or 56% of the mean gender gap (0.03 / (0.918 - 0.865)). This gender differential effect remains virtually unchanged in column 4, where we control for province-by-year FE, allowing provinces to follow different trends.[7]

Alternative measures of economic growth. In Table A3, we gauge the robustness of our findings with alternative measures of provincial economic development. Columns 1 and 2 replicate our baseline estimates from columns 2 and 3 of Table 1, using export exposure constructed from all traded industries. In columns 3 and 4, export exposure is based on manufacturing industries only. The estimates remain largely unchanged. This is reassuring given that manufacturing is the

[7] Note that in column 4, the province-by-year FE absorbs the base exposure variable and interactions between province-specific initial characteristics with year FE.

primary driver of exports in Vietnam. Columns 5 to 8 restrict the sample to 2010-2018, when data on provincial GRDP per capita are available. Columns 5 and 6 repeat the analysis using our main export exposure indicator, showing that the effects are also robust to the choice of time frame. The estimates in column 6 show that in response to a one SD increase in export exposure, women's LFP decreases by 2.2 pp, or 2.5% of the mean. In columns 7 and 8, we use log GRDP per capita as the explanatory variable. A one SD increase in log GRDP per capita (0.518) is associated with a 2 pp reduction in FLFP, or 2.3%of the mean (0.02 / 0.859). Although less precisely estimated, the results obtained using GRDP per capita are consistent with our baseline, demonstrating that using export exposure as a proxy for economic development is reasonable.

Export shocks and sectoral allocation of labor. One might suspect that the observed decrease in FLFP documented above is due to the displacement of female labor during trade liberalization. To shed light on this, we examine the effects of export exposure on economic sector and employer type, conditional on working. Results are reported in **Table 2**, using our preferred specification from column 2 (for Panel A) and column 3 (for Panel B) of Table 1.

Panel A shows that export shocks shift workers out of agriculture (column 1) and into manufacturing and services (columns 2 and 4), based on the sample of all individuals who have worked in the previous 12 months. Moreover, the positive export shocks in the local economy facilitate the transition of the workforce to the formal sector, particularly foreign-owned firms (columns 5 and 6), consistent with prior findings on trade-induced formalization in Vietnam within the manufacturing sector (see McCaig and Pacvnik, 2018). Panel B reveals that, when remaining in the workforce, female workers benefit more than male workers from these emerging economic opportunities, with a swifter transition out of agriculture and into manufacturing and services as well as foreign firms. Specifically, a one SD increase in export exposure (0.952) disproportionately

raises women's probability of employment (relative to men) in manufacturing by 1.4 pp (9.3% of the female average) and in services by 1.8 pp (5.5% of the female average). This trend aligns with the rise of FDI in low-skilled, labor-intensive manufacturing in Vietnam (McCaig, 2011).

In addition, we examine the effect of export exposure on wages. Specifically, we repeat the analysis from Table 1, replacing the dependent variable with log annual earnings.[8] If the decline in the employment rate is due to a negative labor demand shock, then we would expect a negative relationship between export exposure and wages. In contrast, if the decline in the employment rate is supply-driven, we would expect a positive (or non-negative) relationship between export exposure and wages. As shown in Table A4, wages and export exposure are positively correlated. This holds for both men and women, with no significant gender difference. The results remain consistent whether using earnings from the main job (columns 1 and 2) or from all jobs combined (columns 3 and 4).[9] Overall, the evidence suggests that the decline in FLFP is unlikely due to adverse labor demand shocks disproportionately affecting female workers.

[8] Expressed as 1,000 VND in 2018. In the VHLSS data, we observe wages for a subsample of individuals who reported receiving salaries in the past 12 months. This subsample comprises around 34% (42%) of the full sample for annual earnings from the main job (from all jobs).

[9] In Table A5, we zoom in on North and South Vietnam. For ease of interpretation, the coefficients in this table are reported as the total effect for each gender-by-region group, rather than using men as the reference group as in the main analysis. The positive relationship between wages and export exposure is also observed for both men and women in each region. Point estimates for wage increases are largest for Southern women, although the difference compared to Northern women is not statistically significant. This result holds across all specifications, whether using annual

5.2 Heterogeneity by marital status and household income

Why would Vietnamese women reduce their labor supply amid expanding economic opportunities? To further understand the drivers behind this phenomenon, we investigate possible heterogeneity in women's responses based on household characteristics. In **Table 3**, we examine whether the labor supply response to export exposure differs by marital status.[10] Column 1 reports separate estimates for single and married individuals. Column 2 further reports the differential effects by gender, comparing single women with single men, and married women with married men. The results indicate that the negative effect of export exposure on employment is concentrated among married individuals, particularly married women, while there is no corresponding effect for married men. In contrast, the impact of export exposure on singles is positive, with a small and statistically insignificant gender difference.

Restricting our attention to married women, we further examine heterogeneity by household wealth and husband characteristics in **Table 4**. In each column, we use all observations that can be matched to the corresponding household or husband characteristics. The number of observations in columns 2 and 3 is smaller since wage and earnings information is available only for those in wage employment.[11] Based on columns 1-3, we find that relative to the reference group

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earnings from the main job only versus all jobs combined (columns 1 and 4), or when excluding the southernmost provinces whose institutions differ from the rest of Vietnam (columns 2, 3, 5, and 6).

[10] The share of married individuals in our sample is 84% (see Table A1).

[11] Nearly all formal-sector workers report wage and earnings, but only about one in five informal workers does. The results remain unchanged when excluding women with husbands in agriculture.

(lowest quartile), the reduction in the working rate is stronger for women in the highest quartile of household wealth or husbands' wages/earnings. In column 4, we find no significant difference across husbands' education levels. We return to this point in the next section, where we highlight substantial regional heterogeneity between North and South Vietnam. In column 5, we find that women with husbands in medium or high-skilled occupations exhibit a stronger decrease in labor supply, compared to the reference group in low-skilled occupations. [12]

The concentration of negative effects on the LFP among married women—particularly those in wealthier households or married to higher-skilled men—indicates that household-level labor allocation between home and market work matters. With the trade liberalization in the 2000s and the subsequent rapid income growth, rising male earnings may have reduced the need for dual earners, leading some women to withdraw from the labor market in favor of leisure or home production. This pattern suggests that whether the income effect (i.e., higher wages inducing women to drop out of the labor market) dominates the substitution effect (i.e., higher wages prompting women to increase their labor supply) in the context of export-driven economic growth may depend on the prevailing gender role attitudes. We examine this hypothesis in the next section.

6. Labor market behavior of women in North and South Vietnam

To explore the hypothesis on how household-level decisions on labor allocation might be shaped by gender role attitudes, we examine potential heterogeneity in women's responses between South

[12] We code the International Classification of Occupations (ISCO) occupation groups 1-2 as "Manager/Professional", groups 3-8 as "Medium-skilled", and group 9 as "Elementary". Armed forces occupations, representing 0.3% of total workforce, are excluded from the analysis. See https://ilostat.ilo.org/methods/concepts-and-definitions/classification-occupation.

Vietnam (formerly capitalist) and North Vietnam (always socialist). The latter's sustained exposure to socialist ideologies—particularly gender-egalitarian values—may make them more resistant to the resurgence of the male breadwinner norm.

6.1 Survey evidence on gender role attitudes

To gain insights into regional variations in gender role attitudes in Vietnam, we draw on the World Values Survey (WVS). In Vietnam, the WVS was carried out in 2001 (wave 4), 2006 (wave 5), and 2019 (wave 7), allowing us to observe the attitudes of the Vietnamese people in the two regions on gender-related and gender-neutral issues. We pool all years and report the mean responses of the South Vietnamese (relative to the North Vietnamese, the reference group) with confidence intervals at 95% level, while conditioning on year FE.

In the first panel of **Figure 4**, we report the North-South difference in gender role attitudes, focusing on respondents' (dis)agreement with statements such as, "When jobs are scarce, men should have more rights to a job than women," "University is more important for a boy than for a girl," "Men make better business executives than women do," and "[There is a] problem if women have more income than [their] husbands."[13] As shown, respondents from the South exhibit more conservative attitudes than their Northern counterparts, and this is true for both males and females (see Figure A4). Conversely, there is no systematic difference between the two regions regarding core beliefs on gender-neutral dimensions such as effort, luck, and fairness (as seen in the second panel of Figure 4). Overall, evidence from the survey data aligns with the enduring disparities in gender role attitudes between Northern and Southern Vietnamese populations, stemming from the

[13] We recode "Strongly agree," "Agree," and neutral responses as 1 (Agree), while "Disagree" and "Strongly disagree" are recoded as 0 (Disagree).

country's prior division and wartime experiences. Although one may worry that regional differences in gender attitudes reflect deeper roots predating the 1954 division, historical data and the evolution of Confucian influence in Vietnam indicate otherwise. See Appendix B for details.

6.2 Heterogeneous effects on FLFP across regions

In **Table 5**, we examine the differential effects of export shocks on working rate by gender and region (North vs. South), in a variant of equation (2). Here, we allow for gender-by-region FE, in addition to all the included controls in column 3 of Table 1. Section 2 describes the North-South boundary at the 17th parallel north (see panel (b) of Figure 3). Columns 1-3 are based on the full sample while columns 4-6 restrict attention to the sample of married women.

Column 1 shows that while men's participation is hardly affected, women's participation in the labor market significantly decreases in both regions with an increase in export exposure. Looking at $\beta_1 - \alpha_1$ (which reflects the South-North difference in women's disproportionate response relative to men), we find that the decline in women's participation is roughly 1 pp larger in the South than in the North for one SD increase in export exposure.

North-South historical differences. To ensure that the North-South difference in FLFP responses stems from the different political regimes and experiences during the Vietnam War (1954-1975) rather than other cultural or institutional factors, we examine subsamples based on Vietnam's historical territories. The southernmost part of Vietnam (consisting of 12 provinces in the Mekong River Delta and three other southeastern provinces) was not incorporated into Vietnam until 1833. The region once belonged to the Khmer Empire, potentially subject to very different institutions and norms from the rest of Vietnam (historically Dai Viet). Dell et al. (2018) use a regression discontinuity design to show persistent differences across the Dai Viet–Khmer border, with higher economic development and living standards on the Dai Viet side due to stronger local cooperation

and civic engagement norms. In addition, the Mekong River Delta plays a vital role for national agriculture and food security: the delta produces half of the Vietnam's rice and one-third of GDP, factors that may affect female employment if women are overrepresented in agriculture. For these reasons, we first exclude the 12 Mekong River Delta provinces (column 2) and then all 15 provinces historically on the Khmer side (column 3).

Upon excluding the southernmost provinces, point estimates suggest that the reduction in FLFP is more than twice as large in the South, and the difference is significant at the 1% level. This reinforces our hypothesis of cultural divergence between the two regions during the war. In columns 4-6, we repeat the analysis for married individuals only. The point estimates are somewhat larger but remain consistent with the results from the full sample.

North-South differences in economic structure. One could argue that the stronger reduction of female labor supply in the southern Vietnam is due to different economic structures between the two regions that may limit employment opportunities for Southern women. One might also believe that because the South has a larger agricultural sector, Southern women face greater displacement when agricultural jobs disappear. Data from the Census 1999, however, do not support these conjectures. Panel (a) of Figure A5 illustrates that the two regions had similar economic structures in 1999.[14] Zooming into manufacturing (Panel (b)), we see that although female and male workers concentrate in different industries, there is little North-South difference within gender.

In Table A6, we conduct a more direct check to support the argument that regional economic structures do not explain the stronger reduction in FLFP in the South, focusing on

[14] If anything, a larger share of the workforce in the North is engaged in agricultural activities and slightly less engaged in manufacturing.

married individuals. To isolate the North-South behavioral differences, we estimate the effects of provincial export exposure predicted separately for female-intensive and male-intensive industries (see equation (1)). This approach ensures that the North-South difference in FLFP is not driven by variations in the composition of exporting industries, particularly the female-friendliness of the jobs created. We define an industry as female-intensive if the share of female workers in that industry in 1999 is above the median (around 36%). For ease of comparison, column 1 replicates the baseline results for the married sample from column 4 of Table 5. In columns 2 and 3, we observe negative effects on women's working status in response to either method of constructing the provincial export exposure—both of which are strongly correlated, with the effects being larger in the South. Columns 4-6 confirm that these patterns hold when using only manufacturing industries to construct provincial export exposure.

North-South differences in home responsibilities. A remaining concern is that the observed North–South differences may stem from differing demands for women's home production across the two regions. For example, women in the South may have more children or larger families to care for, which could make it more difficult for them to participate in market work.

Using VHLSS data, Figure A6 shows similar household sizes in North and South Vietnam, with a gradual decline from 2002 to 2018. Using census data from 1999, 2009, and 2019, Figure A7 plots births per woman by age group (15–24, 25–39, 40–49), revealing similar declining trends across regions. The drop in fertility is most substantial for women aged 40–49, which aligns with the end of their fertile age and more closely reflects the total fertility rate. This pattern alleviates the concern that greater home responsibilities, rather than traditional gender role attitudes, are the primary drivers of North-South differences in women's participation in market work.

6.3 Heterogeneity by household income

In the previous section, we establish that the stronger trade-induced reduction FLFP of Southern compared to Northern women can be attributed to enduring differences in gender norms between the two regions. Here, we examine how these norms shape women's responses across household wealth and husband's income, revisiting the heterogeneity analysis in Table 4 to allow for differential effects between North and South. In the North, the negative impact on female labor supply is concentrated among women married to high-earning husbands or in wealthier households, whereas in the South, women reduce labor supply across all household income and husband-earning quartiles (Figure A8). This suggests weaker labor market attachment among Southern women, who exit the workforce once it becomes financially feasible. In contrast, Northern women demonstrate stronger attachment, with the income effect dominating only at higher household income levels. A similar pattern appears when considering husbands' education and skill (Figure A9).[15] These results highlight the interplay between gender norms and socioeconomic status: in traditional male-breadwinner settings, the income effect emerges at lower thresholds, whereas in more gender-egalitarian contexts, it dominates at higher income levels.

7. Further Evidence from Postwar Migration Policy

7.1 New Economic Zones program and Northern-born population in the South

We argue that gender role attitudes shaped by differing political regimes during the Vietnam War era drive the observed North–South differences in women's labor supply responses to trade-induced growth. However, given longstanding geographic, economic, and cultural differences

[15] The estimates underlying Figures A8 and A9 are reported in Tables A7 and A8, respectively.

between the two regions, alternative explanations are possible. To isolate the role of gender norms, we exploit a historical episode following the country's reunification in which millions of individuals were relocated across Vietnam.

Known as the New Economic Zones (NEZ) program and implemented by the Vietnam Communist Party, millions of people were relocated to uninhabited mountainous or rural areas in the southern and central regions, formerly part of South Vietnam (Desbarats, 1987; Dang et al., 1997).[16] Table A9 provides details on planned and actual migration figures from 1976 to 2000. Before the onset of Doi Moi in 1986, Vietnam's economy was heavily centralized, giving the Government substantial control over migratory flows. The organized resettlement program left migrants (or "resettlers") with little to no agency in determining their relocation.[17]

[16] The NEZ policy played a vital role in Vietnamese planning, ranking as the top priority among government agricultural projects. During the first five-year period (1976-1980), over 1.5 million migrants (out of a target of four million) were relocated, 40% of whom came from the North. By 2000, more than five million people had relocated across the country. The establishment of the NEZs served multiple objectives, including redistributing the population to alleviate overcrowding in the Red River Delta in the north and reducing urban population density in southern cities. It also aimed to reclaim lands for food production to support a postwar nation facing food shortages, and to address both internal and external security. The resettlement of inhabitants into thinly populated yet strategically sensitive areas near the Cambodian, Laotian, and Chinese borders was considered imperative for national defense (Desbarats 1987).

[17] With the liberalization of the economy and the relaxation of social controls in recent years, internal migration has become increasingly less restricted.

The program's design allows us to use it as a natural experiment, wherein Northern-born migrants (with earlier exposure to socialism) and Southern natives (with later exposure) living in the same environment. Using VHLSS 2014, 2016 and 2018, we identify inviduals' birth provinces and construct a dummy, $BirthNorth_i$, indicating whether a person was born in North Vietnam. Figure A10 illustrates the shares of Northern-born individuals and all migrants across Southern provinces. The eight darkest-shaded provinces are those with the highest migrant shares, closely matching the designated New Economic Zones in the mountainous or rural areas. We refer to these provinces as the "Destination" ones.

7.2 Patterns of response by birth origin

In a sample of Southern provinces only, we estimate a variant of equation (2), interacting $Exposure_{pt}$ with a birth-origin indicator (Northern-born or Southern-born) and with a gender indicator. We retain individuals born between 1954 and 1979, corresponding to the war and the early stage of the NEZ resettlement, thereby increasing the likelihood that they moved due to the program rather than self-selection into migration.[18] We additionally control for an interaction

[18] We exclude those born before 1954, as over 1 million Northern residents fled south during the 300-day Passage of Freedom following the 1954 Geneva Accords. This group, known as *Bac-54* (literally North-1954), predominantly comprised political and Catholic refugees fleeing potential persecution by the communist government. Second, we exclude cohorts born after 1979 since we do not observe the timing of migration and thus cannot be sure that they moved under the NEZ policy, particularly since 1986. Moreover, income effects are less relevant for younger, more often single individuals, whereas the decline in FLFP is concentrated among married women (section 5).

between $BirthNorth_i$ and $Destination_p$ since Northern-born migrants living in the eight Destination provinces might have unobserved characteristics (e.g., reason for moving or relocation challenges) differing from those in the other areas, where $Destination_p$ is an indicator for being one of the Destination provinces (see Figure A10).

Results are reported in **Table 6**. In column 1, the sample consists of individuals residing in all Southern provinces. In column 2, the sample is further restricted to migrants living in the South, including both Southern-born migrants and Northern-born migrants. Since the Northern-born migrants were born and grew up under the socialist North, their exposure to the socialist regime is almost 30 years longer than that of the Southerners. To the extent that former exposure to socialism has long-lasting effects on gender role attitudes, we expect to see the Northern-born population living in the South behave more similarly to people living in the North. This is indeed the case for women born between 1954 and 1979. Focusing on column 1, the effect of export exposure on women's LFP (relative to men) is -0.038 for the Southern-born. The corresponding estimate for the Northern-born women is -0.024, or 37% smaller in absolute terms compared to the Southern-born women. This suggests that while both Northern-born migrants and native Southern women reduce their labor supply in response to export shocks, Northern-born women do so to a lesser extent, despite sharing the same contemporaneous institutions.

In column 2, we obtain similar results when restricting the sample to migrants only. The differential effect for Northern-born women relative to Southern-born women ($\beta_1 - \alpha_1$) is -0.010,

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Nonetheless, results are similar when extending the sample to cohorts born 1954–1989 (Table A10).

significant at the 1% level. Directly comparing migrants of different birth origins helps alleviate concerns about potential unobserved differences between migrants and non-migrants, safeguarding the finding on the North-South differential effect among women against inherent migration characteristics. Interestingly, the magnitude of this difference mirrors that of our benchmark result in Table 5 (column 1) when comparing women who currently live in North and South Vietnam. In columns 3 and 4 where we further restrict the sample to Destination provinces, the results on the relative reduction of FLFP by gender and birth origin hold.

8. Conclusions

We explore the impact of gender role attitudes on women's labor supply in response to rising incomes and expanding economic opportunities. Our study focuses on reunified Vietnam, particularly during the trade liberalization and rapid growth of the 2000s. While Vietnam today shares similar institutions, its history of division (1954-1975) resulted in starkly different regimes and experiences in the North and South. The socialist North promoted gender equality and women's economic participation, whereas the capitalist South maintained a traditional male breadwinner norm.

Utilizing quasi-random variation in provincial export growth from 2002 to 2018, we find that positive export shocks, while facilitating the transition of workers from agriculture to the formal sector, significantly reduce women's LFP—especially among married women whose husbands are in skilled occupations. This decline is more pronounced in the South than in the North, and among native Southerners compared to Northerners who migrated south after the war.

Our findings suggest that the prevailing gender role attitudes—whether the male breadwinner norm or gender-egalitarian values—can influence women's engagement in the labor market in contrasting ways as incomes rise. This has important implications for emerging

economies. A key question for future research will be whether women in the North will resist the resurgence of the male breadwinner norm or gradually adopt behaviors similar to those of their Southern counterparts in the coming decades.

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Table 1: Provincial exports and employment responses

	Dependent variable: Work			
	(1)	(2)	(3)	(4)
Exposure	-0.007	-0.013***	0.003	
	(0.005)	(0.004)	(0.005)	
Female × Exposure			-0.031***	-0.031***
			(0.007)	(0.007)
Province FE	Yes	Yes	Yes	No
Year FE	Yes	Yes	No	No
Gender-by-year FE	No	No	Yes	Yes
Province-by-year FE	No	No	No	No
Province initial characteristics × year FE				
Share of manufacturing employment	Yes	Yes	Yes	No
Manufacturing gross output per capita	No	Yes	Yes	No
Service gross output per capita	No	Yes	Yes	No
Female labor force participation	No	Yes	Yes	No
Kindergarten classes per 0-5 child	No	Yes	Yes	No
Mean dep. var.	0.891	0.891		
Mean dep. var. - Men			0.918	0.918
Mean dep. var. - Women			0.865	0.865
Observations	402,833	402,833	402,833	402,833
R^2	0.128	0.129	0.131	0.132

Notes: "Work" is a dummy indicating whether the individual worked at any time during the past 12 months. The sample includes all individuals aged 20-64. All columns control for age in cubic polynomial, gender, education level, ethnicity, province fixed effects, year fixed effects, and interactions of provinces' initial characteristics with year dummies. Provinces' initial characteristics are taken from the Vietnam Statistical Yearbook 1999. Columns 3 and 4 allow for gender-by-year fixed effects. Column 4 allows for province-by-year fixed effects. Standard errors are clustered at the province level, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: Provincial exports and sectoral allocation of workers

	Sector				Employer	
	(1) Agriculture	(2) Manufacturing	(3) Construction	(4) Services	(5) Formal firm	(6) Foreign firm
Panel A. Overall effect						
Exposure	-0.044**	0.020	-0.002	0.026***	0.024*	0.019*
	(0.020)	(0.019)	(0.004)	(0.007)	(0.013)	(0.010)
Mean dep. var.	0.479	0.142	0.072	0.307	0.223	0.031
Observations	358,806	358,806	358,806	358,806	358,338	358,338
R^2	0.285	0.089	0.072	0.185	0.285	0.093
Panel B. Effect by gender						
Exposure	-0.032*	0.013	0.003	0.016**	0.024*	0.012
	(0.018)	(0.018)	(0.005)	(0.008)	(0.012)	(0.010)
Female × Exposure	-0.025**	0.015***	-0.009	0.019***	0.000	0.014***
	(0.010)	(0.005)	(0.006)	(0.006)	(0.006)	(0.005)
Mean dep. var. - Men	0.458	0.130	0.127	0.286	0.232	0.021
Mean dep. var. - Women	0.501	0.154	0.017	0.328	0.213	0.041
Observations	358,806	358,806	358,806	358,806	358,338	358,338
R^2	0.285	0.090	0.073	0.186	0.285	0.096

Notes: The dependent variable in each column is a dummy indicator for being in the respective sector. The sample is restricted to working individuals aged 20-64. All columns control for age in cubic polynomial, gender, education level, ethnicity, province fixed effects, year fixed effects, and interactions of provinces' initial characteristics with year dummies (as in column 3 of Table 1). All columns in Panel B allow for gender-by-year fixed effects. Standard errors are clustered at the province level, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Heterogeneous effects by marital status

	Dependent variable: Work	
	(1)	(2)
Single		
Exposure	0.016*	0.018**
	(0.009)	(0.009)
Female × Exposure		-0.006
		(0.006)
Married		
Exposure	-0.019***	-0.002
	(0.004)	(0.005)
Female × Exposure		-0.033***
		(0.008)
Mean dep. var.	0.891	0.891
Observations	402,833	402,833
R^2	0.143	0.145

Notes: "Work" is a dummy indicating whether the individual worked at any time during the past 12 months. The sample includes all individuals aged 20-64. All columns control for age in cubic polynomial, gender, education level, ethnicity, province fixed effects, marital-status-by-year fixed effects, and interactions of provinces' initial characteristics with year dummies (as in column 3 of Table 1). Column 2 allows for gender-by-year fixed effects and for gender-by-marital-status fixed effects. Standard errors are clustered at the province level, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Heterogeneous effects by wealth and husband's characteristics

	Dependent variable: Work				
	(1) Household wealth	(2) Husband hourly wage	(3) Husband annual earnings	(4) Husband education	(5) Husband occupation
Exposure	-0.006	-0.004	-0.005	-0.014***	-0.007
	(0.006)	(0.007)	(0.007)	(0.005)	(0.005)
Q2 × Exposure	-0.000	-0.001	0.001		
	(0.003)	(0.006)	(0.005)		
Q3 × Exposure	-0.007*	-0.001	-0.001		
	(0.004)	(0.005)	(0.005)		
Q4 × Exposure	-0.013**	-0.016***	-0.015***		
	(0.006)	(0.004)	(0.005)		
Medium × Exposure				0.005	-0.012***
				(0.003)	(0.003)
High × Exposure				-0.004	-0.013
				(0.007)	(0.010)
Mean dep. var.	0.891	0.909	0.909	0.927	0.927
Observations	177,778	45,171	45,171	118,673	118,673
R^2	0.132	0.118	0.121	0.088	0.090

Notes: The sample is restricted to married women aged 20-64. Column 1 include married women with information on household wealth, columns 2 and 3 include married women whose husbands do waged work with information on hourly wage and annual earnings, columns 4 and 5 include married women with information on husbands' education and occupation skill level. All columns control for age in cubic polynomial, education level, ethnicity, province fixed effects, and interactions of provinces' initial characteristics with year dummies (as in column 3 of Table 1). Additionally, columns 1 to 3 control for family SES quartile-specific year fixed effects (type of family SES is indicated at the top of the column), the reference group is Q1. Columns 4 controls for husband education level-specific year fixed effects, the reference group is low education. Columns 5 control for husband occupation skill-specific year fixed effects, the reference group is low-skill occupation. Standard errors are clustered at province level, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Employment responses across various choices of territory

	Dependent variable: Work					
	Whole sample			Married		
	(1)	(2)	(3)	(4)	(5)	(6)
	All	Excl. 12 provinces in Mekong River Delta	Excl. 15 provinces on Khmer side pre-1833	All	Excl. 12 provinces in Mekong River Delta	Excl. 15 provinces on Khmer side pre-1833
North						
Exposure (α_0)	-0.005	-0.004	-0.005	-0.005	-0.004	-0.004
	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)
Female × Exposure (α_1)	-0.013***	-0.015***	-0.015***	-0.017***	-0.018***	-0.018***
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)
South						
Exposure (β_0)	-0.008	-0.005	-0.003	0.003	0.005	0.006
	(0.006)	(0.005)	(0.005)	(0.006)	(0.005)	(0.006)
Female × Exposure (β_1)	-0.022***	-0.031***	-0.035***	-0.029***	-0.038***	-0.042***
	(0.006)	(0.005)	(0.005)	(0.007)	(0.006)	(0.006)
$\beta_0 - \alpha_0$	-0.003	-0.001	0.001	0.008	0.009	0.010*
	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.006)
$\beta_1 - \alpha_1$	-0.009*	-0.017***	-0.020***	-0.012*	-0.020***	-0.023***
	(0.005)	(0.005)	(0.004)	(0.006)	(0.005)	(0.005)
Mean dep. var.	0.891	0.897	0.898	0.920	0.930	0.931
Observations	402,833	317,355	299,693	336,504	265,385	250,942
R^2	0.134	0.145	0.148	0.124	0.128	0.129

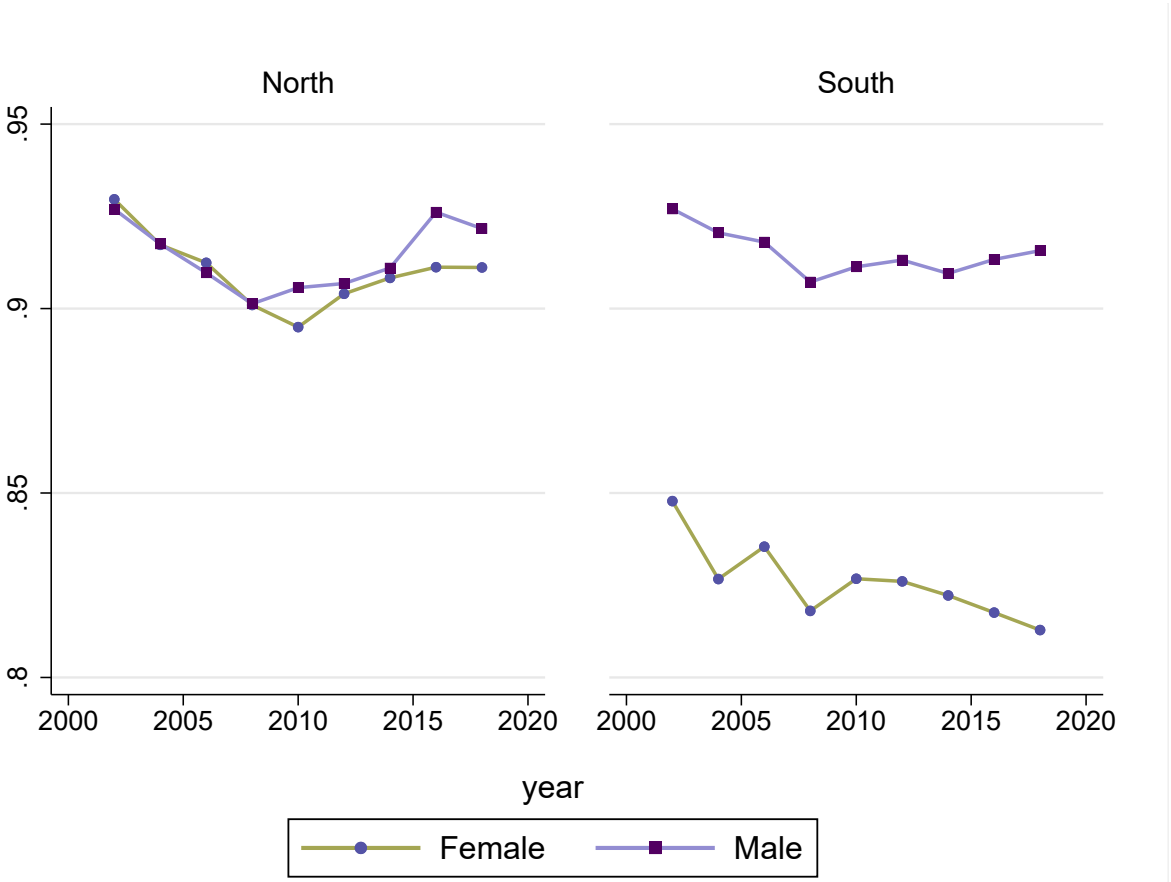
Notes: 12 provinces in Mekong River Delta include Long An, Tien Giang, Ben Tre, Tra Vinh, Vinh Long, Dong Thap, An Giang, Kien Giang, Can Tho, Hau Giang, Soc Trang, Bac Lieu, Ca Mau. 15 provinces on the Khmer side pre-1833 include the 12 provinces in Mekong River Delta and Tay Ninh, Binh Duong, Binh Phuoc. The sample is restricted to working individuals aged 20-64 in columns 1 to 3, and married working individuals aged 20-64 in columns 4 to 6. All columns control for age in cubic polynomial, education level, ethnicity, province fixed effects, gender-by-year fixed effects, gender-by-region fixed effects, and interactions of provinces' initial characteristics with year dummies (as in column 3 of Table 1). Standard errors are clustered at the province level, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Employment responses by birth origin within the South, cohorts 1954-1979

	Dependent variable: Work			
	All Southern provinces		Destination provinces	
	(1) All	(2) Migrants	(3) All	(4) Migrants
Southern-born				
Exposure (α_0)	-0.004	-0.085	-0.193	-0.192
	(0.020)	(0.055)	(0.145)	(0.237)
Female × Exposure (α_1)	-0.038***	-0.035***	-0.036***	-0.030**
	(0.007)	(0.007)	(0.007)	(0.009)
Northern-born				
Exposure (β_0)	-0.002	-0.088	-0.194	-0.194
	(0.021)	(0.055)	(0.145)	(0.236)
Female × Exposure (β_1)	-0.024***	-0.024***	-0.021***	-0.021***
	(0.005)	(0.005)	(0.006)	(0.006)
$\beta_0 - \alpha_0$	0.002	-0.003	-0.001	-0.002
	(0.004)	(0.003)	(0.004)	(0.003)
$\beta_1 - \alpha_1$	0.014*	0.010***	0.014**	0.009*
	(0.007)	(0.004)	(0.006)	(0.004)
Mean dep. var.	0.880	0.877	0.900	0.905
Observations	72,901	17,430	17,934	11,205
R^2	0.114	0.147	0.109	0.115

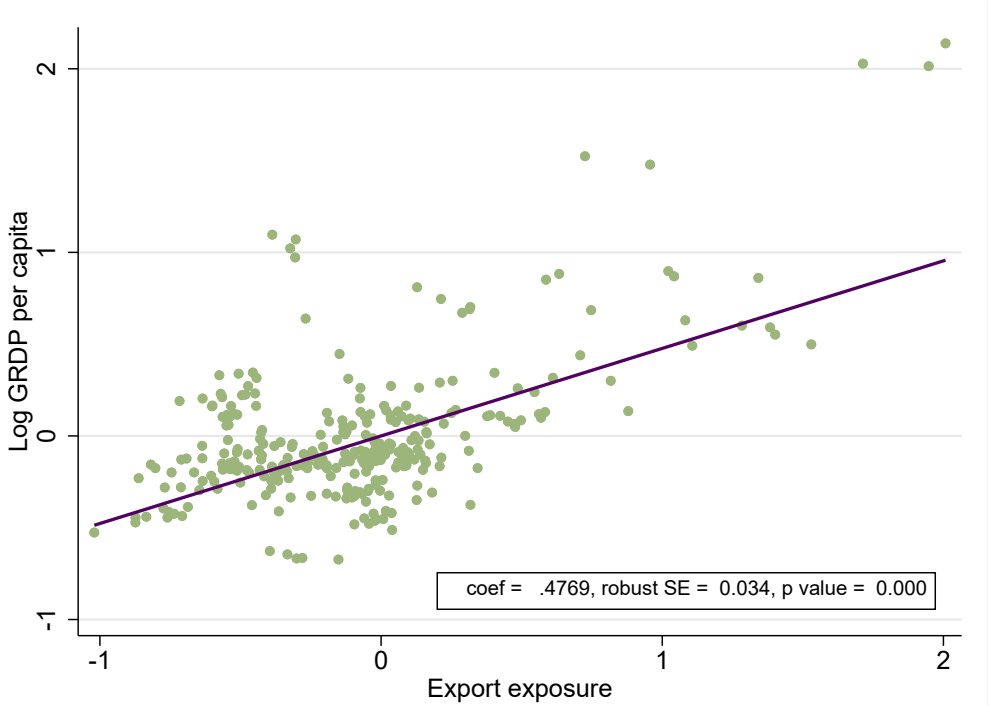
Notes: In columns 1 and 2, the sample includes all 32 provinces in the South. In columns 3 and 4, the sample includes eight "Destination" provinces in the South–those with highest shares of Northern-born immigrants. The sample is restricted to individuals aged 20-64 from 1954-1979 birth cohorts. All columns control for age in cubic polynomial, education level, ethnicity, province fixed effects, gender-by-year fixed effects, gender-by-birth-origin fixed effects, and interactions of provinces' initial characteristics with year dummies (as in column 3 of Table 1). Columns 1 and 2 control for for gender-by-birth-origin-by-destination fixed effects. Columns 1 and 3 control for birth-origin-by-destination fixed effects. Birth origin is an indicator for being born in the North. Destination is an indicator for living in a Destination province. Standard errors are clustered at the province level, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure 1: Labor force participation rate by gender and region in Vietnam, 2002-2018



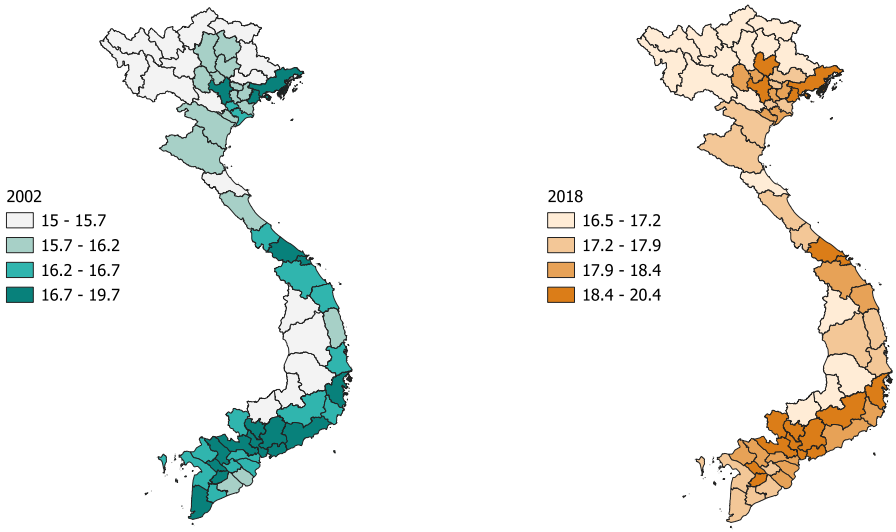
Notes: This figure plots the share of individuals aged 20-64 who reported to have worked in the last 12 months.
Source: Vietnam Household Living Standards Survey 2002-2018.

Figure 2: Regional development indicators: Log GRDP per capita vs. export exposure

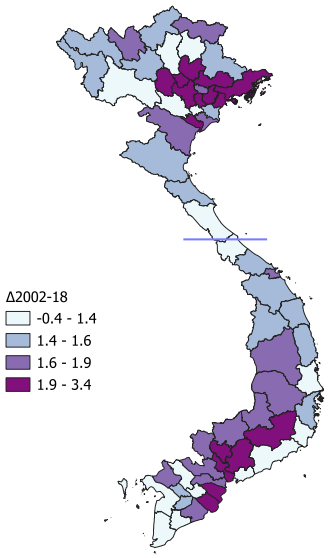


Notes: N = 120. Observations at province-year level, data in 2010-2018. Data on provinces' Gross Regional Domestic Product per capita (GRDP per capita in constant 2018 VND) are from the General Statistics Office of Vietnam (GSO). Export exposure is log predicted export per worker, as defined in equation (1). The plots partial out year-specific effects of a province's share of manufacturing employment in 1999. Regression models are weighted by provinces' share of national population in 1999. A province's share of manufacturing employment in 1999 and share of the national population in 1999 are taken from the Census 1999.

Figure 3: Spatial variation in export exposure between 2002 and 2018



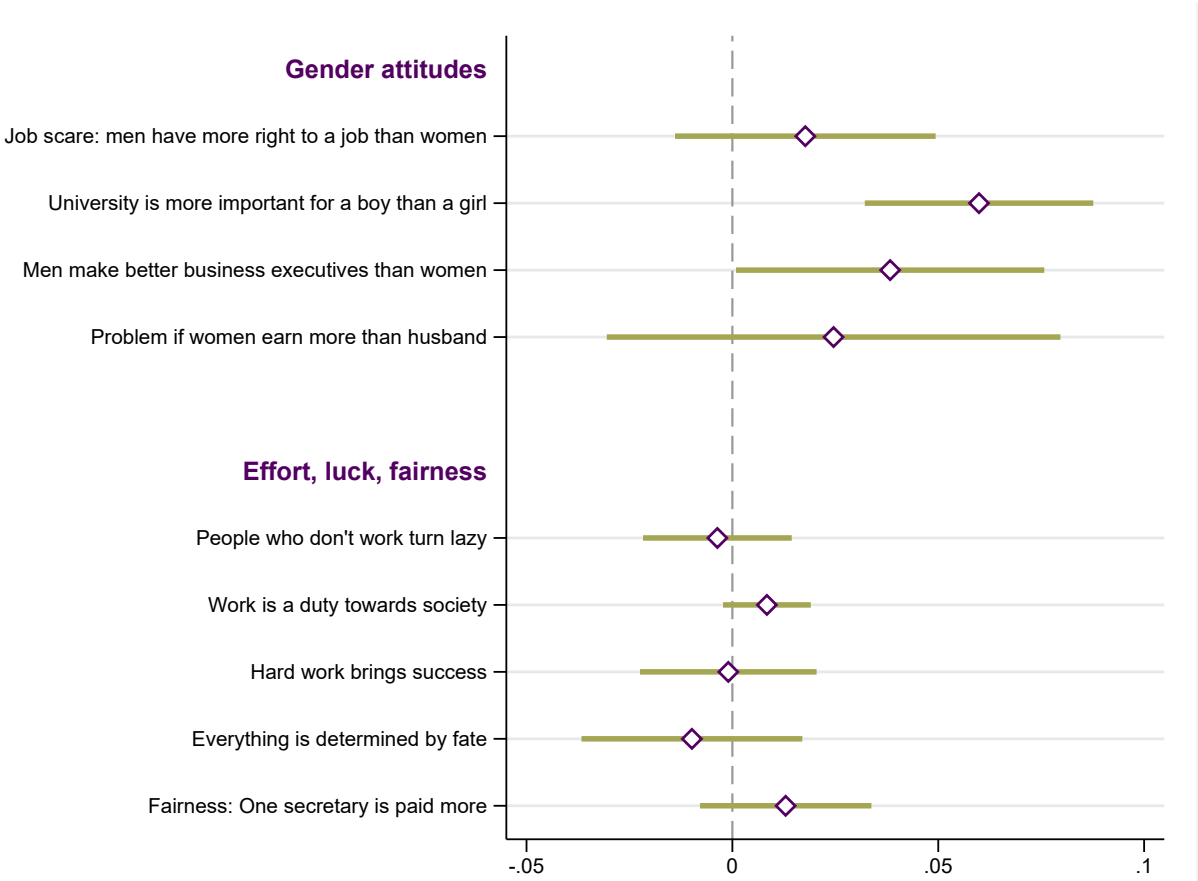
(a) Export exposure in 2002 and 2018



(b) Change in export exposure, 2002-2018

Notes: Export exposure is log predicted export per worker, as defined in equation (1). Export values (constant 2018 VND) from United Nations Comtrade Database (UN Comtrade) are adjusted for the Consumer Price Index obtained from the General Statistics Office (GSO) of Vietnam. In Panel B, the solid horizontal line represents the 17th parallel north, the Demilitarized Zone dividing North and South Vietnam.

Figure 4: Opinions of Southern Vietnamese compared to Northern Vietnamese



Notes: Coefficients come from separate regressions of each outcome (opinion) on the South indicator, controlling for year fixed-effects, with confidence intervals at 95% level. Answers are recoded from "Strongly Agree", "Agree" and "Neither" into 1 (Agree); "Disagree" and "Strongly Disagree" into 0 (Disagree). Source: World Values Survey 2001, 2006 and 2019.