

Relationship Among Trade in Services, Female Immigration and Gender Income Inequality: A Literature Review

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Abstract

Over the past few decades, trade in services, female immigration, and gender income inequality have emerged as significant components of the global economy, with important interrelated implications. While scientific literature includes a growing body of research examining the links among these three domains, a substantial research gap persists. In particular, limited attention has been paid to their joint analysis. This systematic literature review aims to cover this gap by synthesizing the existing scientific literature and focusing on the interrelationships among trade in services, female immigration, and gender income inequality. The review provides a structured synthesis of empirical evidence, methodological approaches, types of data, directions of the examined relationships, and country samples, while also identifying key research gaps. The findings reveal a notable lack of integrated empirical studies that simultaneously examine the relationships among trade in services, female immigration, and gender income inequality within a unified econometric framework. Moreover, the existing literature predominantly relies on single-country analyses and exhibits limited use of advanced econometric techniques. Finally, this study contributes to the literature by highlighting directions for future research, including the adoption of more advanced econometric methods and the use of diverse, multi-country samples to examine potential bidirectional relationships among trade in services, female immigration, and gender income inequality.

Keywords: Trade in services; female immigration; gender income inequality

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1. Introduction

In recent decades, the global economy has undergone substantial structural transformations, with trade in services, female immigration, and gender income inequality¹ emerging as key factors shaping economic development, labor market dynamics, and policy priorities. Trade

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¹ For the purposes of this study, the term “gender income inequality” is used as an umbrella concept encompassing the gender wage gap, gender income gap, gender earnings gap, and gender income inequality as well as broader income disparities between men and women. However, in Section 2, these terms are used interchangeably in the literature review, reflecting their usage in the individual studies.

in services has become one of the fastest-growing components of global trade, accounting for an increasing share of international trade flows (Tans, 2017). It is remarkable that trade in services is embedded across all stages of production (Joekes, 1995) and generates significant benefits for national economies (Gervais and Jensen, 2019; Lipowiecka and Kiriti-Nganga, 2016). Despite its growing importance, literature has predominantly focused on trade in goods or aggregate trade, devoting relatively limited attention to trade in services specifically (Wonyra et al., 2023).

Concurrently, globalization has intensified both trade in services liberalization and international immigration flows. Female immigration has increased significantly and now constitutes a substantial share of global immigration. However, early economic research largely overlooked gender as a relevant dimension, focusing primarily on male or aggregate immigration flows. This underscores the importance of examining female immigration as a distinct economic and social phenomenon (Pfeiffer et al., 2007; Kanaiaupuni, 2000).

In parallel, gender income inequality remains a persistent challenge in both developed and developing economies. Despite notable progress, women continue to face structural disadvantages in labor markets, including lower wage/income shares, occupational segregation, and limited opportunities for career advancement (Klugman, 2016; Neef and Robilliard, 2021). As a result, reducing gender income inequality has become a central objective within global development agendas, such as the United Nations 2030 Sustainable Development Goals.

Against this backdrop, understanding the interactions among trade in services, female immigration, and gender income inequality is essential for promoting inclusive and sustainable economic outcomes. Nevertheless, the existing literature remains fragmented, as most studies analyze these dimensions in isolation rather than as interrelated processes. Moreover, literature is largely characterized by a reliance on single-country analyses and conventional econometric methods, which limits the ability to capture complex and dynamic interdependencies.

This study seeks to address these limitations by conducting a systematic literature review, with a particular focus on the interrelationships among trade in services, female immigration, and gender income inequality. It provides a structured synthesis of empirical findings, methodological approaches, types of data, and country coverage, while identifying key research gaps. In doing so, the study contributes to existing literature by integrating these three strands of research and by establishing a foundation for future empirical investigation.

The paper is structured as follows. Section 2 outlines the methodological approach and reviews the relevant literature. Section 3 discusses the identified research gaps and proposes directions for future research. Section 4 concludes.

2. Literature review

This study adopts a systematic literature review approach to examine the relationships among trade in services, female immigration, and gender income inequality, following established guidelines for conducting systematic reviews (Petticrew and Roberts, 2006; Booth et al., 2022). The literature search was carried out using major academic databases, including Scopus, Web of Science, Emerald, JSTOR, and Google Scholar. A comprehensive set of keywords was employed, such as “trade in services”, “female immigration”, “gender wage

gap”, “gender income gap”, “gender income inequality”, and “gender earnings gap” along with their pairwise and three-way combinations.

The study selection process was conducted in two stages. In the first stage, articles were screened based on their titles, abstracts, keywords, and conclusions to assess their relevance to the research objectives. In the second stage, the full texts of the selected studies were reviewed to evaluate their direct relevance to the relationships under investigation and to ensure comprehensive coverage of the pertinent scientific literature. The review included only peer-reviewed journal articles, supplemented by selected high-quality reports, written in English and directly related to the examined variables. Irrelevant studies and duplicate records were excluded.

The final sample of studies was analyzed using a qualitative and descriptive synthesis, focusing on key characteristics such as methodological approaches, types of data, country coverage, and the direction of the relationships examined. The findings were subsequently organized into thematic subsections corresponding to the pairwise relationships among the three core variables.

2.1 Trade in services and female immigration

It is worth noting that female immigration represents an important yet often underestimated and underexplored dimension of trade in services. At the same time, the services sector has expanded rapidly, increasingly absorbing female labor (Joeke, 1995). In parallel, women immigrate at rates comparable to or even higher than those of men (O’Neil et al., 2016), while skilled female immigrants are more likely than their male counterparts to immigrate and often work in positions below their qualifications (Upreti, 2020; Benería et al., 2012). These trends underscore the importance of developing and implementing appropriate policies aimed at protecting and empowering female immigrants in the services sector, particularly considering the sector’s continued expansion (Joeke, 1995).

The existing literature has largely overlooked the economic effects of female immigration on host-country economies. Only in recent years has a limited number of studies begun to examine this issue, highlighting the role of female immigration in the trade in services sector. However, the current literature covers only a small part of this gap, focusing on a limited range of the potential effects of female immigration on trade in services.

More specifically, one of the few studies examining this relationship is Bowen and Pédussel Wu (2018), who empirically examine the relationship between female immigration and trade in services using a sample of 14 Organisation for Economic Co-operation and Development (OECD) countries over the period 1998–2010, applying Ordinary Least Squares (OLS) regression and panel-corrected standard errors. Their findings indicate that female immigration has a positive effect on services exports, suggesting that higher inflows of female immigrants are associated with increased exports. In contrast, male immigration appears to have a negative effect on services exports, implying a substitutive relationship. The estimated elasticity suggests that an increase in female immigration leads to a 3.67% rise in services exports. The authors emphasize the importance of incorporating gender dimensions into immigration and trade policy design, arguing that policies such as guest-worker programs may strengthen the complementarity between female immigration and trade in services by targeting labor demand in export-oriented sectors.

Table 1 summarizes the direction of the relationship between trade in services and female immigration, the number of studies based on single-country and multi-country samples, the types of data used, and the main research gaps identified in the literature.

Table 1. Synthesis of relationship, methodological approaches and research gaps for the relationship between trade in services and female immigration

Relationship / No of studies	Methodology	Data type	Research gaps
Trade in services ← Female immigration (None identified studies with single-country sample / 1 study with group of countries sample)	OLS regression (1) Regression with Panel-Corrected Standard Errors (1)	Panel data (1)	1) Reliance on a single econometric approach 2) Lack of examination of reverse relationship and causality 3) Limited country coverage and diversity 4) Scarcity of empirical studies on trade in services and female immigration

Source: Developed by the authors according to the presented literature review.

2.2 Trade in services and gender income inequality

The literature offers conflicting perspectives on the impact of trade in services on women's wages as employees and income as business owners. The central debate concerns whether trade in services improves women's economic outcomes or instead reproduces existing gender income inequality. Relative to agriculture and manufacturing, the expansion of trade in services and women's increasing participation in this sector appear to provide more favorable prospects in terms of wages and employment opportunities (Sauvé, 2020). In addition, some studies draw indirect inferences regarding the effect of trade in services on the gender income gap, suggesting that women employed in service-exporting activities may earn higher incomes because wage shares tend to be higher in exporting firms (Bernard and Jensen, 1995).

It is important to recognize that trade affects men and women differently in terms of wages, career advancement, and occupational roles. Trade in services is among the fastest-growing sectors worldwide and, statistically, employs a higher share of women than men. In the twenty-first century, the global economy has increasingly shifted toward trade in services, which has expanded more rapidly than trade in goods. This transformation has created additional opportunities for women to participate more actively in the services sector and may therefore contribute to narrowing the gender wage gap (Rocha and Piermartini, 2023). In this context, globalization and trade liberalization may amplify the effects of such disruptions, thereby contributing to a widening of gender wage gap.

Evidence from India illustrates the complexity of these relationships. Chamarbagwala (2006), using the Katz and Murphy nonparametric methodology with household- and individual-level data for the period 1960–1980, finds that trade liberalization in services did not significantly alter the pre-existing gender wage gap. Instead, trade liberalization appears to have increased the demand for skilled labor, benefiting both skilled men and skilled women. This finding suggests that the effects of services liberalization may depend less on gender alone than on the interaction between gender and skill composition.

Similarly, Amoranto et al. (2010), using a Heckman selection model with cross-sectional data for the Philippines during the period 1991–2004, find that increased liberalization in services sectors such as telecommunications, distribution, and banking had a negative effect on women's wages overall. However, women with tertiary education experienced more favorable outcomes, implying a narrowing of the gender wage gap among highly skilled employees. These results point to heterogeneous effects of services liberalization across women with different levels of education and skill.

Wang (2020), drawing on the 2015 China Household Finance Survey and applying Mincer-style wage regressions with cross-sectional data, finds that the liberalization of trade in services in China affected the gender wage gap in multiple ways. The expansion of services exports appears to widen the gender wage gap by exerting a significant negative effect on women's wages, while no comparable negative effect is observed for men's wages. High-skilled women, in particular, experience a 10% reduction in wages, while low-skilled women also face more negative effects than men. By contrast, the increase in services imports has no clear aggregate effect on the gender wage gap, possibly because of the relatively limited scale of such imports. However, services imports appear to affect high-skilled men more negatively than women, thereby reducing the gender wage gap. The study therefore suggests that skill upgrading may help women mitigate some of the adverse distributional effects associated with trade in services.

Johannesson and Nordås (2021) find that trade in services in 29 states and 7 union territories of India is associated with a smaller gender wage gap in service sectors with comparative advantage. Using repeated cross-sectional data collected at five-year intervals from 1972 to 2012, together with OLS estimation and Oaxaca–Blinder decomposition, the authors show that women make more effective use of their skills and education in services than in manufacturing. Nevertheless, women in service sectors with comparative advantage still earn less than their male counterparts despite having higher levels of educational attainment. On average, women's wages in these service sectors with comparative advantage are 24% lower than men's wages, whereas the corresponding gap in manufacturing (regardless of comparative advantage) is substantially larger, with women earning on average 42% less than men.

At both the firm and individual levels, trade in services affects labor-market outcomes in complex ways. Lassmann (2020), drawing on empirical evidence from the European Union (2008–2016), India (1972–2012), Brazil (2005–2017), the United Kingdom (2004–2017), Sweden (2003–2015), Italy (2008–2017), Vietnam (2004–2016), and Slovenia (2009–2016), and applying the Hummels, Jørgensen, Munch, and Xiang micro-econometric approach on Cross-sectional data, finds that trade in services increases workers' wages on average, although the magnitude of the effect is relatively small. The positive effect is more pronounced in developed economies and remains less clear in developing countries. Moreover, services exports and imports have mixed effects depending on workers' skill levels. Growth in services exports tends to increase women's wages, whereas growth in services imports tends to reduce women's wages relative to men's. In this way, services exports may modestly narrow the gender wage gap, while services imports may slightly widen it by depressing women's wages and indirectly raising men's wages through productivity gains.

Using individual- and firm-level data for the United Kingdom over the period 2004–2017, Lassmann and Spinelli (2020) similarly show that trade in services can affect women and men differently. Applying Hummels et al. micro-econometric method, they find that services imports increase women's wages more than men's, thereby narrowing the gender wage gap. More specifically, a 76% increase in services imports by importing firms is associated with a 38% increase in women's hourly wages. By contrast, firms that only export services do not appear to have a significant effect on either women's or men's hourly wages, while firms engaged in both importing and exporting services have a positive and broadly similar effect on both groups. The authors also note that trade barriers tend to reduce wages in trade in services.

Another form of trade in services is the off shoring of white-collar occupations. In the United States during the period 1995–2005, off shoring appears to have had a broadly neutral net effect on the gender wage gap (Kongar and Price, 2010). Off shoring reduced women's employment in low-wage occupations, where female representation had been relatively high. This mechanically increased the average wages of the women who remained employed, producing an apparent reduction in the gender wage gap. However, this effect was offset by two countervailing forces: first, women shifted into better-paid non-off shorable occupations in which the gender wage gap was larger; second, increased male employment in high-paying occupations exposed to off shoring risk contributed to widening the gap. On balance, the authors conclude that the overall effect of tradable services on the gender wage gap was neutral, using standard occupational decomposition methods with cross-sectional data.

The expansion of technology has also transformed services into a central component of digital trade, thereby creating new opportunities for women. Digital marketplaces, such as Upwork and Airbnb, engage substantial numbers of female workers, while many firms operating on such platforms are owned by women. Online teaching represents another example of a digital service that has expanded women's economic opportunities. According to the literature review and theoretical frameworks developed by Sicat et al. (2020), these forms of trade in services enable female workers to make greater use of transferable skills such as communication, customer service, and marketing, while also helping female entrepreneurs reduce transaction costs, overcome barriers to trade, improve access to finance and knowledge, and increase their income. In this way, digital trade may contribute to narrowing the gender income gap.

Taken together, the literature suggests that trade in services may affect gender income inequality through multiple and often heterogeneous channels, depending on country context, skill composition, trade structure, and institutional conditions. Table 2 summarizes the direction of the relationship between trade in services and the gender wage/income gap in the studies reviewed, the number of studies based on single-country and multi-country samples, the types of data employed, and the main research gaps identified in the literature.

Table 2. Synthesis of relationship, methodological approaches and research gaps for the relationship between gender income inequality and trade in services

Relationship / No of studies	Methodology	Data type	Research gaps
Gender wage gap $\leftarrow$ Trade in services (6 studies with single-country sample / 1 study with group of countries sample)	Nonparametric methodology by Katz and Murphy (1) Heckman selection model (1) Mincer-style regression (1) OLS regression (2) Oaxaca–Blinder decomposition (1) Hummels et al. micro- econometric method (2) Occupational decomposition methods (1)	Household and individual level data (1) Cross-sectional data (4) Individual and firm-level panel data (2)	1) Focus on cross-sectional and individual data rather than panel data 2) Predominant use of single- country samples and limited cross-country and comparative analyses (within Europe, EU or other continent) 3) Reliance on Hummels et al. and Oaxaca–Blinder decomposition methods

Relationship / No of studies	Methodology	Data type	Research gaps
Gender income gap $\leftarrow$ Trade in services (1 study with single-country sample / None identified studies with group of countries sample)	Literature review (1) Two new theoretical frameworks (1)	World level - Country level - Firm level data (1)	4) Lack of examination of reverse relationship and causality 5) Focus on wage gap and limited research on income gap

Source: Developed by the authors according to the presented literature review.

2.3 Female immigration and gender income inequality

The literature has extensively examined the effects of immigration on income gap in receiving countries (Hoover and Yaya, 2010), yet it has paid considerably less attention to female immigration as a distinct analytical category, despite its growing importance as one of the most significant global trends of recent decades (Edo and Toubal, 2017). Traditional migration theories have largely neglected female immigration and, more broadly, the need for gender sensitive theoretical frameworks capable of capturing the specific determinants and consequences of female immigration. Compared with native populations, immigrants face specific constraints and obligations, and, in conjunction with labor market requirements, these factors may place them at a higher risk of wage/income gap and labor market disadvantage (Burescu Mihăila and Cucoş, 2023). Only in recent decades has more sustained research begun to address these issues. It should also be noted that this body of literature measures gender inequality using a range of indicators, including wages, income, earnings, and the distribution of these outcomes.

Using panel data for 30 European countries over the period 2011–2019 and applying level-level and log-level regression models, Burescu Mihăila and Cucoş (2023) conclude that labor mobility policies are associated with lower income equality. Their findings suggest that such policies do not necessarily promote immigrants' effective integration into host-country labor markets; rather, they may hinder immigrants' ability to secure jobs commensurate with their skills and to obtain citizenship, thereby contributing to lower earnings and greater income inequality. The authors further argue that these policy effects are gendered, with immigrant women appearing more vulnerable than men to lower pay and weaker labor market outcomes.

Most studies examining the labor market effects of immigration have focused on immigrants' outcomes relative to those of natives. A substantial proportion of low-skilled female immigrants are employed in domestic services in host countries, a pattern observed across a wide range of national contexts. Based on an extensive literature review and country-specific evidence from Hong Kong, the United States, the United Kingdom, Spain, Italy, Australia, Germany, Switzerland, the Dominican Republic, Colombia, Taiwan, and France, Cortés (2023) argues that the lower cost of domestic services provided by immigrant women enables high-skilled native women to increase their labor market participation while reducing the time they devote to unpaid household work. In this way, the inflow of female immigrants employed in domestic services may increase the labor supply of high-skilled native women and contribute to narrowing the gender wage gap in high-paying occupations. This mechanism operates partly through the reallocation of time away from childcare and domestic responsibilities. Cortés (2023) therefore identifies an important indirect channel

through which female immigration may reduce gender wage gap, namely by altering the distribution of paid and unpaid labor within households and labor markets.

By contrast, research comparing female immigrants with native women generally points to persistent wage disadvantages among the former. Dustmann and Schmidt (2000), using panel data for West Germany over the period 1984–1995 and applying an ordered probit selection model, find that female immigrants earn less than native women within the same sectors, regardless of whether they work part-time or full-time. Although female immigrants are more frequently employed in full-time positions, which partially offsets the wage disadvantage they face, native women are more often employed part-time because of childcare responsibilities. The authors attribute much of the wage gap to differences in educational attainment and, more importantly, to the incomplete recognition of female immigrants' qualifications in host-country labor markets. They further show that work experience acquired in the host country generates substantially lower wage returns for female immigrants than for native women.

Edo and Toubal (2017) examine the relationship between immigration and the gender wage gap in France over the period 1990–2010, using Mincer-type regressions, OLS estimation, nested CES structural estimation, instrumental variables, and micro-level data. Against the background of rising female immigration flows to France, they investigate the effects of the feminization of migration on the wages of native male and female workers. Their results indicate that female immigration has a significant effect on the gender wage gap: specifically, increases in female immigration widen the gender wage gap when male and female labor are imperfect substitutes, even among workers with similar levels of education, experience, and occupational status. Their estimates suggest that a 10% increase in female immigration reduces the wages of comparable native women by approximately 4%, thereby worsening gender wage gap. They further estimate that this mechanism lowers native women's wages by around 0.11% and increases the gender wage gap by approximately 0.06%.

Using firm-level data on employee productivity in Belgian enterprises for the period 1999–2010, Kampelmann and Rycx (2016) apply pooled OLS, fixed effects, and Generalized Method of Moments IV (GMM-IV) estimation and find that female immigrants from EU countries are associated with lower hourly wages at the firm level. More specifically, a 10% increase in the share of female immigrants from EU countries is associated with a 1% decline in hourly wages, while the corresponding decline for female immigrants from non-EU countries is smaller (0.6%). The authors conclude that female immigrants face wage discrimination and that productivity differences explain only part of the observed wage gap. They also find that both native and immigrant women face greater wage discrimination than immigrant men from non-EU countries and, more broadly, than immigrants overall. However, they do not find evidence of a clear “double disadvantage” operating simultaneously through both gender and origin among women, which they attribute to similarities between the profiles of native and immigrant women and to the possibility that origin is less salient for women than for men in the Belgian labor market.

Nevertheless, a substantial body of literature points to double discrimination against female immigrants. Kats (1982), in a descriptive and comparative analysis of Russian immigrant women in Israel over the period 1960–1971, finds that their largest wage gap is relative to native men, followed by immigrant men, while the smallest gap is relative to native women (6%). These findings suggest that female immigrants face a dual disadvantage associated both with gender and with immigrant status. Similar patterns are reported elsewhere. Beach and Worswick (1993), using pooled regression analysis and cross-sectional data for Canada

in 1972, argue that highly skilled female immigrants experienced double discrimination because they were concentrated in highly skilled occupations with relatively low earnings as well as in low status jobs. Bartolucci (2014), applying the Hellerstein–Neumark approach to matched employer–employee data for Germany during 1996–2005, reports that a 10% increase in the share of female immigrants is associated with a 2.7% decline in average firm wages and that native women earn 20%–23% more than female immigrants. Similar disadvantages are documented by Grand and Szulkin (2002) for Sweden, who apply OLS regression to micro-level data from 1995, showing that female immigrants earned less than native men (18.4%), male immigrants (12.9%), and native women (2.8%). Moore et al. (2009), using logistic regression and micro-data for the United States in 2000, likewise find that female immigrants from Africa, the Americas, Europe, and Asia earn less than both comparable men and natives, reflecting a pattern of double discrimination. Barrett and McCarthy (2007) identify similar evidence for Ireland in 2005 (using Mincer-style regression and cross-sectional data), particularly among female immigrants from non-English-speaking countries and from the new EU member states.

More recent evidence confirms the persistence of large immigrant-native wage gap in Europe. Using data for France, Germany, Italy, and Spain over the period 2003–2019 and applying the Oaxaca–Blinder decomposition method, Dossche et al. (2024) find that natives earn, on average, hourly wages that are approximately 30% higher than those of immigrants. More specifically, natives earn about 25% more than immigrants from EU countries and about 35% more than immigrants from non-EU countries. The authors further show that the immigrant-native wage gap varies according to duration of residence in the host country. Among immigrants who have lived in the host country for more than ten years, the wage gap falls to approximately 15%–20%, whereas for those with less than ten years of residence the gap at least doubles, particularly at older ages. They also find that individuals who migrated before the age of 18 face substantially smaller wage gaps—approximately 60% smaller than those of adult migrants—although the gap does not disappear entirely. Observable characteristics such as gender, age, education, and occupation explain only around 30% of the immigrant-native wage differential. Coppola et al. (2013) report similar findings for Italy (using Oaxaca–Blinder and Machado-Mata decomposition method with cross-sectional data), concluding that demographic characteristics explain only a limited share of the wage disadvantage faced by female immigrants.

Gender wage gap is also evident within immigrant populations and across generations. Mora and Dávila (2018), using multiple linear regression and Oaxaca–Blinder decomposition with cross-sectional data for the United States over the period 1994–2017, show that first-generation Hispanic female immigrants from Mexico, Puerto Rico, and Cuba earn 35%–40% less per hour than first-generation white non-Hispanic male immigrants employed full-time. Although the gap persists among second generation and third or higher generation female immigrants, it is smaller and broadly similar across these later generation groups.

Further evidence from Spain highlights how discrimination varies across the wage distribution. Canal-Domínguez and Rodríguez-Gutiérrez (2008), using panel data for 1998–2006 and Oaxaca–Blinder decomposition, estimate mean wage gap at 26.9% for female immigrants and 25.7% for male immigrants relative to natives. Female immigrants face stronger gender wage gap at the lower end of the wage distribution (10th and 50th percentiles), whereas male immigrants experience stronger wage gap at higher wage levels (25th, 75th, and 90th percentiles). The authors identify human capital—particularly lower returns to education—as the main driver of discrimination against female immigrants. Similarly, Antón et al. (2012), using Oaxaca–Blinder and Machado–Mata decomposition

methods with micro-data for Spain in 2006, find that female immigrants, especially those from developing countries, face wage gap relative to native women primarily at the upper end of the wage distribution, consistent with a glass-ceiling effect. Nicodemo and Ramos (2012), using the Nopo non-parametric decomposition method and micro-data for Spain in 2008, likewise find that wage gap against female immigrants is stronger at higher wage levels and is particularly pronounced among women from developing countries. They attribute this pattern mainly to the concentration of female immigrants in low-paid jobs that are generally avoided by native women.

Pinto et al. (2023) add that female immigrants in Spain also face disadvantages in the distribution of wage supplements, such as bonuses and payments for night or weekend work. Using Oaxaca–Blinder decomposition and micro-data for 2018, they show that these supplements constitute an important share of gross pay—around 30% for natives and 17% for immigrants—and that female immigrants from non-EU countries receive nearly 30% lower hourly supplements than men. This disadvantage negatively affects gross wages, particularly in sectors such as transport, catering, hotels, and retail trade.

Hoover and Yaya (2010) investigate gender income inequality among immigrants in the United States for 2006, using robust regression, cross-sectional econometric analysis, and micro-data. Their results suggest that the relationship between gender income inequality, measured by the Gini index, and the individual incomes of female immigrants follows a U-shaped pattern: the association is initially negative, but becomes positive beyond a certain income threshold. For male immigrants, by contrast, the relationship follows the inverted U-shaped pattern predicted by the Kuznets (1955) hypothesis. They also show that male immigrants earn substantially more than female immigrants—more than twice as much on average—indicating severe gender income inequality within immigrant populations. The duration of residence in the host country appears to reduce this inequality over time, whereas newly arrived immigrants, especially females, tend to widen the existing gender income inequality.

Legal status and migration channels also matter. Nagayoshi (2024), using OLS estimation and Oaxaca–Blinder decomposition with micro-data for Japan in 2020, finds that female immigrants holding status-related visas and working full-time face gender wage inequality that is similar to, or slightly greater than, that experienced by native women relative to men. A small part of this gap is explained by age differences across visa categories, such as between interns and professionals. The study further suggests that the gendered structure of the Japanese labor market reduces female immigrants' opportunities for professional advancement. By contrast, female immigrants holding employment-related visas face smaller gender wage disparities relative to male immigrants than native women do relative to native men. In Australia, Guven et al. (2020), using pooled OLS and administrative data for the period 2000–2011, find that the gender wage/income gap between immigrants admitted on skill-based visas and those admitted as spouses exists for both men and women, but is larger among women. Female immigrants admitted on skill-based visas earn 29% more than women admitted through spousal visas.

The disadvantages faced by female immigrants also persist later in life. Using cross-sectional data for Canadian tax years 2019–2021 and a linear probability model, Sogaolu and Sweetman (2025) show that female immigrants have the highest rates of low income after age 65, followed by native women, male immigrants, and native men. After age 80, the same ranking persists. Before age 65, the pattern differs somewhat, and at certain ages female immigrants may have slightly lower low income rates than male immigrants, while native

women record the lowest rates. The authors attribute these differences largely to age-related benefit structures, tax-based residence requirements, immigrants' shorter duration of residence, and the cumulative effects of weaker employment histories and lower pre-retirement earnings.

Furthermore, some studies examine female immigrant entrepreneurship. Using OLS estimation and Oaxaca–Blinder decomposition with micro-data for Sweden over the period 2004–2012, Kazlou and Klinthall (2019) find that a higher number of female immigrant entrepreneurs is associated with greater income inequality and a negative contribution to average income, although improvements in the business environment and higher returns can increase their earnings. By contrast, Gawel and Toikko (2024), using OLS estimation and macro-level panel data for selected EU countries during 2006–2021, find that female immigrant entrepreneurship has no statistically significant effect on the gender pay gap.

Finally, a smaller body of literature examines the reverse relationship, namely the effect of gender income inequality on female immigration. Using cross-country and country-level cross-sectional data for 86 non-OECD countries over the period 2000–2010 and applying OLS, three-stage least squares, two-stage least squares, and Heckman two-step procedures, Ferrant and Tuccio (2015) find that lower gender income inequality is associated with lower female immigration from the country of origin, as improved bargaining power reduces women's incentive to immigrate. Baudassé and Bazillier (2014) reach a similar conclusion using gravity models, two-stage least squares, instrumental variables, and Heckman two-step estimation with cross-sectional data, although they emphasize women's limited economic resources in highly unequal settings. These findings suggest that female immigration flows and gender income inequality may move in opposite directions, with higher inequality reinforcing women's incentives or constraints to immigrate.

Table 3 summarizes the direction of the relationship between female immigration and gender income inequality in the studies reviewed, the number of studies using single-country and multi-country samples, the types of data employed, and the main research gaps identified in the literature.

Table 3. Synthesis of relationship, methodological approaches and research gaps for the relationship between gender income inequality and female immigration

Relationship / No of studies	Methodology	Data type	Research gaps
Gender income inequality $\leftarrow$ Female immigration (No study with single-country sample / 1 study with group of countries sample)	Level-level (1) Log-Level Regression (1)	Panel data (1)	1) Lack of empirical research for cross-sectional dependence in multi-country studies (e.g. European samples)
Gender wage gap $\leftarrow$ Female immigration (16 studies with single-country sample / 1 study with group of countries sample)	Literature review (1) Simple time-use model (1) Ordered probit selection model (1) Mincer-style regression (1) OLS regression (2) Structural estimation nested CES type (1) Instrumental variable estimation (1) Pooled OLS regression (3) GMM-IV (1) Descriptive statistical and comparative analysis (1) Hellerstein-Neumark approach (1) Logistic regression analysis (1) Quantile regressions (1) Oaxaca-Blinder decomposition (6) Machado-Mata decomposition method (2) Multiple linear regression (1) Nopo non-parametric decomposition (1)	Cross-sectional micro data (1) Panel data (3) Micro-data (6) Employer-employee data (2) Cross-sectional data (3) Administrative data (1)	2) Reliance on Oaxaca-Blinder decomposition and OLS regression methods 3) Lack of examination of reverse relationship and causality, except in research on female immigrant entrepreneurship 4) Focus on country level studies
Gender earnings gap $\leftarrow$ Female immigration (None identified studies with single-country sample / 1 study with group of countries sample)	OLS regression (1) Mincer-style regression (1) Oaxaca-Blinder decomposition (1)	Micro-data (2) Cross-sectional data (1)	5) Predominant use of single-country samples and limited cross-country and comparative analyses (within Europe, EU or other continent)
Gender income gap $\leftarrow$ Female immigration (None identified studies with single-country sample / 1 study with group of countries sample)	Robust regression using cross-sectional econometric analysis (1) Pooled OLS regression (1) Linear probability model (1) OLS regression (2) Oaxaca-Blinder decomposition (1)	Cross-sectional micro-data (1) Administrative data (1) Cross-sectional data (1) Micro-data (1) Macro-level panel data (1)	6) Lack of analysis of the intensity of female immigration across different countries samples
Female immigration $\leftarrow$ Gender income inequality (None identified studies with single-country sample / 1 study with group of countries sample)	OLS regression (1) Three-Stage Least Squares (1) Two-Stage Least Squares (2) Heckman two-step procedure (2) Gravity model (1) Instrumental variable estimation (1)	Cross-country data (1) Cross-sectional data (2)	7) Focus on wage gap and limited research on income gap/inequality

Source: Developed by the authors according to the presented literature review.

3. Critical review of existing literature and research gaps

This systematic literature review identifies major scholarly contributions on the relationships among trade in services, female immigration, and gender income inequality. In addition, it highlights several important research gaps that may serve as key directions for future research. One particularly underexplored area concerns the relationship between female immigration and trade in services (Table 1). The present review identified only a few studies that empirically examine this relationship using specific econometric approaches. Future research could therefore broaden the evidence base by applying alternative empirical methods, incorporating more diverse country samples, and examining potential reverse causality and bidirectional relationships between trade in services and female immigration.

The review also identifies several research gaps in the literature on the relationship between trade in services and the gender income inequality (Table 2). Existing studies have relied primarily on approaches such as the Hummels et al. framework and OLS regression, as well as on cross-sectional and individual-level data rather than panel data. This methodological concentration limits the capacity of the literature to capture long-term dynamics and heterogeneous effects. In addition, most studies are based on single-country samples, while relatively few employ multi-country datasets covering the EU, Europe more broadly, or other world regions in order to conduct comparative analyses across groups of countries (e.g., Western versus Eastern European countries, Southern versus Northern European countries, or developed versus developing economies). Another notable gap is that the vast majority of studies focus on gender wage gap, whereas considerably less attention has been paid to gender income gap. In light of these limitations, future research could benefit from employing more advanced econometric techniques, such as Cross-Sectionally Augmented Autoregressive Distributed Lag (CS-ARDL) models, using more diverse country samples, and examining reverse causality and bidirectional relationships between trade in services and gender income inequality.

The review further assesses the literature on the relationship between female immigration and gender income inequality, identifying a number of important research gaps (Table 3). The existing literature largely examines unidirectional relationships between female immigration and gender income inequality, with only a few exceptions, particularly in studies of female immigrant entrepreneurship. Moreover, most studies focus on the gender wage gap rather than on gender income inequality and gender earnings/income gap. The literature also relies predominantly on single-country analyses and on methods such as Oaxaca–Blinder decomposition and OLS regression. In addition, there is a notable lack of empirical studies that address cross-sectional dependence in multi-country settings, such as European samples, thereby limiting the ability to investigate long-term and heterogeneous effects. Similarly, the limited use of multi-country datasets constrains the scope for comparative analysis across regions and country groups, including Western versus Eastern Europe, Southern versus Northern Europe, developed versus developing economies, and countries with higher versus lower levels of female immigration. Future research could address these limitations by adopting more advanced econometric approaches, including CS-ARDL models and other techniques that explicitly test for cross-sectional dependence, as well as scenario-based approaches for forecasting the future responses of the variables. Such work should also incorporate more diverse country samples and examine reverse causality and bidirectional relationships between female immigration and wage/earnings/income gap or gender income inequality.

Finally, a major gap in the existing literature is the lack of studies that examine the three core variables—trade in services, female immigration, and gender income inequality—within a unified econometric framework. Such an approach would make it possible to investigate their bidirectional interrelationships while maintaining gender as the central unit of analysis. It should also be noted that the limitations of the existing literature are compounded by the lack of gender-disaggregated data on female immigration and by inconsistencies in the measurement of trade in services and wage/earnings/income gap or gender income inequality.

4. Conclusion

In conclusion, this review demonstrates that the literature examining the relationship between trade in services and female immigration remains limited. The available empirical evidence suggests that female immigration has a positive effect on services exports. Moreover, the expansion of trade in services may contribute to reducing the gender income inequality. However, studies that distinguish between services exports and services imports indicate that these trade flows may exert either positive or negative effects on gender income inequality. In addition, female immigration appears to play a significant role in shaping gender income inequality, as the majority of studies find that it is associated with increased gender disparities, although a limited number of studies report neutral or negative effects. Furthermore, some studies suggest that reductions in gender income inequality may decrease female migration.

This review contributes to the existing literature by integrating three previously fragmented strands of research—trade in services, female immigration, and gender income inequality—within a systematic review framework. It provides a comprehensive mapping of the methodologies, types of data, and empirical approaches used in the literature, while highlighting dominant trends such as the reliance on country-level and cross-sectional analyses. In addition, it identifies and organizes key research gaps relating to cross-country heterogeneity, causal inference, and bidirectional relationships, thereby offering a clear agenda for future research in this field.

The most important research gap identified is the absence of integrated empirical evidence examining the interrelationships among trade in services, female immigration, and gender income inequality within a unified econometric framework. This gap is compounded by the predominance of single-country studies and the limited attention paid to reverse causality and bidirectional effects.

The findings also confirm the persistence of gender income inequality affecting women, together with evidence that female immigrants often earn less than male immigrants, native women, and native men. At the same time, the continued expansion of trade in services and the growth of female immigration underscore the importance of targeted policy interventions capable of addressing these three dimensions in an integrated manner. Policymakers should therefore consider how to manage female immigration more effectively, harness the benefits of trade in services, and reduce gender income inequality, as existing policy frameworks have not adequately addressed these challenges or fully accounted for the interdependencies among them.

Future research could build on the gaps identified in this review by employing more advanced econometric methods in multi-country settings and by conducting comparative

analyses within an integrated framework that incorporates trade in services, female immigration, and gender income inequality. Such an approach would make it possible to examine bidirectional relationships more systematically and to generate more robust evidence on the mechanisms linking these variables.

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