

# **Explaining** the Financial Inclusion and Digital Financial Access Gap in the Aftermath of COVID-19

A Case Study of Palestine

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# **Explaining the Financial Inclusion and Digital Financial Access Gap in the Aftermath of COVID-19: A Case Study of Palestine**

Rabeh Morrar, An-Najah National University Fernando Rios-Avila, Levy Economics Institute of Bard College Habib Hinn, Birzeit University

### **Abstract**

This research investigates the factors that contribute to the gender gap in financial inclusion (FI), both traditional and digital, in Palestine. It also examines the influence of the COVID-19 Pandemic on the gender gap in FI, given its ramifications on economic growth and development. The study uses secondary data from two nationwide FI surveys conducted in 2016 and 2022. It employs Oaxaca-Blinder decomposition and intertemporal decomposition to analyze the changes in gender discrimination in access to financial services over time. Results show a persistently high FI gender gap in 2016 and 2022. The gap narrows slightly over time among older individuals, indicating a positive trend for women in FI across different age brackets. Household composition is pivotal in shaping the gender gap in FI; the gap shrinks among households with a higher proportion of female members. Intertemporal decomposition revealed a worsening or unchanged FI gender gap in most aspects, including access to bank accounts, formal borrowing and adoption of digital financial services. Only the gender gap in access to private insurance decreased between 2016 and 2022, which is generally low in Palestine. Most of the changes in the results between the two surveys seem to be driven by changes in discrimination (the gap explained by the changes in coefficients gap), followed up by changes in Men's returns. The deterioration of women's socioeconomic conditions during the COVID-19 pandemic in Palestine, particularly in terms of labor market participation, had the greatest contribution to the growth of intertemporal gender discrimination in terms of FI and financial literacy. The negative consequences of the Pandemic in terms of income and employment, compounded by Israeli restrictions and rising political tension, contributed to the increase in the FI gender gap. Finally, the adoption of modern financial technologies may be slower among women who may face barriers related to technology literacy or access to digital financial services, meanwhile, a significant influence of financial technology on the likelihood of FI, particularly favoring women.

### 1. Introduction

FI, generally understood as access to and usage of formal financial services (Allen et al., 2016), is considered as a key driver of economic development and poverty reduction by global development agencies (World Bank, 2018; Sahay et al., 2015). FI encompasses a broad range of services, including savings accounts, credit facilities, insurance, and digital payment systems. Inclusive finance has emerged as a recent policy focus, including in several MENA countries such as Palestine. Despite global efforts to promote FI, gender disparities persist, hindering the

advancement of women's economic empowerment and participation in modern societies. Global data highlights significant gender gaps in account ownership, particularly in developing nations (Fareed et al., 2017). Women continue to face barriers such as limited access to formal financial institutions, restricted ownership of assets, and social and cultural biases that limit their economic agency (Ghosh & Vinod, 2017). It is imperative to ensure that the most vulnerable, especially women, have equal and sustainable access to formal financial services for inclusive economic growth.

The 2022 FI survey in Palestine has shown that the gender gap in bank account ownership stands at 28.2%, more than double the gap recorded in the MENA region and almost five-fold that of developing countries (Harker et al., 2023). Social norms, limited control of money, and low participation in the labor force are among the key drivers of women's financial exclusion in Palestine (Harker et al., 2023). Money is often controlled by men (e.g., husband, father, or son), and women with low or no income do not have a reason to use financial services and cannot afford them. Women's low engagement with financial services has also resulted in weaker financial knowledge compared to men, further limiting their ability to use such services (Qubbaja, 2019). Weak law enforcement exacerbates women's socioeconomic deprivation and leads to financial exclusion in Palestine (MAS, 2021a).

Women's financial exclusion is also shaped by the complex socio-economic and political environment in which the Palestinian financial industry functions. One of the main obstacles to the demand for financial services and products in Palestine is the country's political and economic instability. Women are additionally discouraged from financial participation by cultural and societal norms, particularly gendered ones like mobility restrictions. This is not to mention the many obstacles put in place by the Israeli occupation, which suppresses both persons and enterprises and restrains the economy and its financial sector. However, without straying from its fundamental values and objectives, there is room for the financial industry to achieve significant and long-lasting change toward more equitable FI for women.

On top of existing challenges, the COVID-19 pandemic has had far-reaching economic and social consequences, disrupting livelihoods and exacerbating existing inequalities. While the pandemic has presented new challenges, it has also accelerated the adoption of technology, particularly in digital financial services. After the COVID-19 pandemic, the expansion of electronic payment options has been observed in many countries in sectors that wouldn't have offered those services before (Sahay et al., 2020). In Palestine, the pandemic had a severe negative impact on women's businesses, with 27% of businesses owned by women forced to shut down and 95% reporting that the COVID-19 pandemic negatively affected their businesses (UN Women, 2020). Palestinian authorities implemented measures to support workers, including social aid programs and funds, and the Palestine Monetary Authority issued instructions to banks to provide temporary financial relief for affected borrowers (PMA, 2020). However, as a large percentage of working women were employed in the informal sector, they faced challenges as they lacked compensation or flexibility in payment schedules (Harker et al., 2023).

This study aims to investigate the factors (economic, social, and political) that contribute to the gender gap in FI in Palestine. In the context of Palestine, limited research exists on FI, particularly with a gender lens. This study aims to fill this gap and provide valuable insights into the factors specific to Palestine that contribute to the gender gap in FI. By using the contextualized micro FI data from 2016 (Pre-COVID) and 2022 (Post-COVID), this study will indirectly investigate the impact of the COVID-19 pandemic on women FI in Palestine. The pandemic has had widespread effects on the global economy, and it is crucial to assess its specific implications for gender disparities in financial access. COVID-19 has accelerated the widespread adoption of digital technologies, including access to digital financial services and digital payment options, but there is still a need to understand and analyse its impact on access to financial services from a gender perspective.

This analysis will encompass both traditional financial services, such as savings accounts and credit facilities, as well as digital financial services, including electronic payments and digital banking platforms. In other words, this research also aims to analyze how the adoption of technology for financial transactions has influenced women FI. By promoting gender-responsive financial systems and leveraging technology, policymakers and stakeholders can work towards closing the gender gap in FI, leading to more inclusive and equitable economic development in Palestine. By understanding these dynamics, policymakers and stakeholders can formulate targeted interventions to promote inclusive and gender-responsive financial systems.

In the next section, the study presents are brief review of the literature on the FI gender gap and digital FI. Section three discusses the research methodology and data used, while section four outlines the results of the study's econometric analysis. The final section presents the conclusion and policy implications.

### 2. Literature Review

Recently, FI gained recognition as a tool for achieving various Sustainable Development Goals (SDGs) and contributing to economic growth (World Bank, 2018; Arner et al., 2020; Sahay et al., 2020; Kuada, 2019). International development agencies like the World Bank Group see it as a tool for poverty reduction and income equality (Demirgüç-Kunt & Singer, 2017). Scholars have emphasized its economic and social components, influencing overall well-being, development of society, and economic growth (Yanina, 2023). Nevertheless, persistent FI gender gaps, particularly in developing nations, continue to pose significant barriers to economic development, innovation, and entrepreneurial activities (Fareed et al., 2017). Women exhibit lower access to and effective use of formal financial services, with a widening gender gap in usage compared to access (Fanta & Mutsonziwa, 2016).

Financial exclusion negatively impacts women's entrepreneurial pursuits, impeding active participation in market economies (Aterido et al., 2013). Providing women with equal access to

financial services can enhance their economic empowerment and contribute to overall well-being, development of society, and economic growth (Sholevar & Harris, 2020; Holloway et al., 2017). Women's FI can help improve the management of household income, increase resilience to economic shocks, and enable investment in the well-being and education of their children (Arnold & Gammage, 2019). It also enables women to gain a certain level of autonomy in making economic and social decisions, such as marriage, employment, expenditures, education, and leisure activities (Arnold & Gammage, 2019). The challenge of reducing the gender gap in FI is prominent globally, necessitating a closer examination of the factors contributing to the widening gender gap. Understanding the socioeconomic drivers of exclusion is crucial for designing interventions that address poverty and discrimination, including the lack of proper employment opportunities.

The literature on FI identifies various factors contributing to gender disparities in accessing financial services, including economic conditions, socio-cultural norms, legal frameworks and institutional settlings. Empirical evidence shows that socioeconomic conditions largely explain the gender gap in FI (Ghosh & Chaudhury, 2019). Factors such as education, employment and income enhance the likelihood of FI and partially explain the gender gap (Abdu, 2015). Özşuca (2019) echoes these findings, attributing a substantial portion of the FI disparity to employment, younger age and higher education. Using three FI indicators – account penetration, formal saving, and formal borrowing - Özşuca (2019) shows a larger gender gap among higher-income groups than lower-income groups. Aterido et al. (2013) highlight that the unconditional gender disparity in formal banking services diminishes when considering individual characteristics such as education, income, work status, and geographic location. Women, particularly those who are very young, very old, poorer, from ethnic minorities, or with disabilities, are among the groups that are disproportionately excluded from financial systems (Shihadeh, 2018).

Gendered social norms play a significant role in shaping women's participation in economic activities and limiting their financial empowerment (Koning et al., 2021). Societal pressures and gender roles in underdeveloped countries often result in involuntary financial exclusion for women, as they are forced out of the labor market (Shihadeh & Hannon, 2017; ILO, 2022). Beck, Behr, and Madestam (2018) provide behavioral explanations, showing how male-dominated financial institutions discriminate against women in accessing credit services. Additionally, restricted mobility, influenced by social and cultural factors, hampers women's access to traditional financial services (Koning et al., 2021). Thus, it is unsurprising that proximity to financial institutions contributed to the gender gap in FI (Mukong et al., 2020).

Legal discrimination, protection issues and unequal resource allocation have also been identified as important factors contributing to the gender gap in FI (Delechat et al., 2018; Benería et al., 2015). Factors such as the lack of tangible assets for collateral and lower human and social capital add to the challenges faced by women in accessing formal credit (Hundie & Tulu, 2023). This is why women are more likely to use informal financial services as alternative strategies. Women's reliance on informal employment, and hence the inability to use their income as collateral, limits their access to formal banking methods (IMF, 2020). Fareed et al. (2017) note a weaker impact of

FI on entrepreneurship for women in the informal sector due to lower entry barriers and financial literacy challenges, hampering their empowerment. Differences in financial knowledge between men and women also contribute to the gender gap in FI (Ndoya & Tsalan, 2021). Mukong et al. (2020) and Grohmann et al. (2018) emphasize the significance of financial literacy in explaining the FI gender gap. These factors, among others such as lack of documentation and restrictive legal frameworks, collectively contribute to the persistence of the gender gap in FI (Demirgüc-Kunt et al., 2013). In essence, addressing gender disparities in FI requires multifaceted interventions, encompassing education, income, employment, and awareness programs tailored to the unique challenges faced by women at the local level.

The Global Findex datasets have long documented the gender gap in FI, showing that the largest gap in bank account ownership between men and women is in the MENA region (Demirgüç-Kunt et al., 2022). In 2021, the gender gap in bank account ownership in developing countries was 6%, while it was 13% in the MENA region (Demirgüç-Kunt et al., 2022). Özşuca (2019) identifies several factors that contribute to the large gender gap in the MENA region, highlighting legal discrimination against women, gender norms, and socio-cultural barriers as key determinants. Women's lower levels of employment also play a key role in this gender gap (Özşuca, 2019). While such results were also observed at a global level (Demirgüc-Kunt et al., 2013) and in specific regions such as India (Ghosh and Vinod, 2017), they are more pronounced in the MENA region due to political instability, limited economic opportunities and patriarchtic systems.

The 2022 FI survey in Palestine has shown that the gender gap in bank account ownership stands at 28.2%, more than double the gap recorded in the MENA region and almost five-fold that of developing countries (Harker et al., 2023). Through descriptive analysis and reasoning, Harker et al. (2023) have shown that social norms, limited control of money, and low participation in the labor force are among the key drivers of women's financial exclusion in Palestine. Men often control money (e.g., husband, father, or son), and women with low or no income do not have a reason to use financial services and cannot afford them (Harker et al., 2023). Women's low engagement with financial services has also resulted in weaker financial knowledge than men, further limiting their ability to use such services. Weak law enforcement exacerbates women's socioeconomic deprivation and leads to financial exclusion in Palestine. Moreover, in investigating the expansion of credit in Palestine, Harker et al. (2019) observed that women bear the weight of men's financial practices despite being financially excluded. As the household disposable income drops due to monthly loan instalments, women are forced to take on extra work to fulfil repayment responsibilities of loans taken by men, reducing their daily consumption expenses (Harker et al., 2019).

### Digital FI and COVID-19

Financial products can differ in how effective they are in promoting welfare and helping achieve development goals, and recent evidence shows a more noticeable impact from financial technology, conditional on having features that align with users' needs and abilities (Sahay et al.,

2020; Gomber et al., 2017). Digital finance can overcome geographical and socioeconomic barriers, offering easier access to financial services and promoting inclusion. Digitization reduces costs, streamlines adoption, reaches underserved communities and enhances customer experiences (Pazarbasioglu et al., 2022). Digital Financial Services can reach markets that conventional financial channels cannot access due to different barriers, such as the high costs of reaching and serving individuals in rural areas or the absence of traditional credit histories (Sahay et al., 2020).

Digital financial services underscore positive outcomes on gender wage gaps, entrepreneurship, and social status (Loko & Yang, 2022; Fareed et al.; 2017). However, financial technology is still characterized by persistent gender barriers and gaps (Kulkarni & Ghosh, 2021). Literacy gaps, awareness challenges, and cultural norms impede women's access to digital financial services. Ediagbonya and Tioluwani (2022) show that the FI gap has expanded despite the introduction of various digital platforms, citing poor infrastructure, unnecessary charges, information asymmetry and data privacy breaches as possible reasons. Chen et al. (2023) reveals a notable disparity in fintech adoption between women and men, attributing it to country characteristics and individual controls, and also attitudes, preferences, product suitability, and willingness to embrace fintech. Positive impacts are observed in countries with lower gender discrimination levels, emphasizing the pivotal role of gender equality in fostering women's financial independence through fintech (Esmaeilpour et al., 2023). This challenges the assumption that fintech alone can bridge the gender gap in financial services, suggesting that technological advancements should be coupled with strategic interventions and a supportive regulatory and legal environment to address socioeconomic and cultural challenges. Prusak and Wacławek (2023) uncover gender discrimination in fintech usage, shedding light on the necessity for policy interventions explicitly addressing gender disparities. Economic development alone is insufficient to eradicate gender disparities, emphasizing the need for a specially tailored and gender-sensitive approach in the wake of digitalization. The growing wave of 'Financial disintermediation' requires not only an enabling ecosystem but also policy formulation advancements and new consumer protection forms.

Research in terms of the potential benefits of digital FI, how it might help overcome the deficiencies in informal offerings, and how digitalization is linked to the notion of social exclusion is still scarce and has not been adequately analyzed yet (Fernández-Olit et al., 2019). Thus, it is vital to analyze how digitization can help integrate specific financially excluded communities in a way that serves their needs and what such a process means for those digitally excluded. It is also necessary to expand the discussion to include the new types of risk that might arise from digital FI and what other alternatives are available for those digitally excluded. Kear (2017) stresses that caution is necessary when analyzing the FI effects of digital finance, understanding the challenges of digitizing financial services, avoiding negative externalities (e.g. risk of over-indebtedness) and proposing valuable solutions that would not deepen the exclusion of certain groups (e.g. women, elderly, illiterate, immigrants, and other disadvantaged groups). Kim et al. (2018) points out that the literature on digital FI is biased towards its institutional and individual prerequisites and less towards the needs of the citizens and how it would impact them.

Digital finance alternatives are promising in Palestine, particularly since it has a well-developed technology sector with a high penetration of the internet (80.2%) and smart mobile phones (81.3%), the fundamental prerequisite for operating sophisticated financial services applications (Tikam & Hinn, 2023). The same research concludes that Palestinian men increased the use of electronic and mobile banking channels during the COVID-19 pandemic more than women did. Tikam and Hinn (2023) do not provide an explanation for this phenomenon, as their research did not touch on the gender disparities in digital FI. However, Palestine's complex political and economic situation, characterized by lower labor force participation, higher unemployment, greater job informality, limited financial independence and lower income among women, might help explain their weaker adoption of electronic and mobile banking channels during the pandemic. COVID-19 larger negative impacts on women's employment and increased vulnerability during the pandemic might be another explanation. Around 27% of businesses owned by Palestinian women were forced to shut down during the pandemic, and 95% reported that the COVID-19 pandemic negatively affected their businesses (U.N. Women, 2020). As a large percentage of Palestinian working women are employed in the informal sector, they faced greater challenges during the pandemic as they lacked compensation or flexibility in payment schedules (Harker et al., 2023).

While the pandemic has presented new challenges, it has also accelerated technology adoption with strict social distancing requirements, particularly in digital financial services (Tukim & Hinn, 2023). After COVID-19, the expansion of electronic payment options has been observed in many countries in sectors that would not have offered those services before (Sahay et al., 2020). The COVID-19 pandemic has had far-reaching economic and social consequences, disrupting livelihoods and exacerbating existing inequalities. The COVID-19 pandemic has also significantly altered gender roles and employment dynamics, as Collins et al. (2021) and Carli (2020) highlighted. School and daycare closures have disproportionately increased caregiving responsibilities for mothers, leading to reduced work hours, job losses and a widening gender gap. Dang and Nguyen (2021) find that women are more likely to lose their jobs permanently and expect larger decreases in labor income due to the COVID-19 outbreak. Since employment is an important factor in enhancing FI, such outcomes could outpace the positive contribution of increased technology adoption and widen the gender gap in FI. As a result of the negative consequences of the pandemic, it became increasingly important to ensure that the most vulnerable, especially women, have access to formal financial services for inclusive economic recovery.

## 3. Methodology and Data

### 3.1 Methodology

To achieve the research objectives, this study will employ decomposition methods combined with distributional regressions.

For the decomposition analysis, we start utilizing the Oaxaca-Blinder (KOB) decomposition approach. This approach will allow us to explore if changes gender gaps are explained by

differences in characteristics or differences in market factors (coefficients) are the most important ones when explaining the observed gender gaps.

We start by estimating the 4 different models with the Financial access index as dependent variable:

$$y_{k,t} = \beta_{k,t} X_i + e_{k,t}$$

Where k and t represent the group (gender) and time indicators,  $y_{k,t}$  is the financial access index for a particular group, and  $\underline{X}_{k,t}$  are the average characteristics of a particular group k in a particular year. For a given point in time t, we estimate the OB decomposition as follows:

$$\Delta_k y_t = y_{m,t} - y_{w,t} = (\beta_{m,t} - \beta_{w,t}) \underline{X}_{w,t} + \beta_{m,t} (\underline{X}_{m,t} - \underline{X}_{w,t})$$
$$= \Delta \beta_t \underline{X}_{w,t} + \beta_{m,t} \Delta \underline{X}_t$$

Where the gap in the variable y between men and women is explained by differences in characteristics reflecting the advantages men may have over women in terms of socio demographic characteristics  $(\beta_{m,t} \Delta \underline{X}_t)$ , and the market structure disadvantange (usually related to discrimination) that women face  $(\Delta \beta_t \underline{X}_{wt})$ .

To analyze the changes across time, we do a double difference decomposition such that

$$\Delta_k^t y_t = (y_{m,1} - y_{w,1}) - (y_{m,0} - y_{w,0})$$
$$= \Delta \beta_1 \, \underline{X}_{w,1} + \beta_{m,1} \, \Delta \underline{X}_1 - [\Delta \beta_0 \underline{X}_{w,0} + \beta_{m,0} \, \Delta \underline{X}_0]$$

Similar to Smith and Welch (1989), we rearrange these terms, and we can use them to explain the change in the observed Gender Gap between 2016 and 2022.

In other words, we can decompose the change in the gender gap across time  $\Delta_k^t v_t$  as a function of four components:

- $(\Delta \beta_1 \Delta \beta_0) \, \underline{X}_{w,0}$ : Change in the financial market gap (Discrimination)towards financial development
- $\Delta\beta_0 \left( \underline{X}_{w,1} \underline{X}_{w,0} \right)$ : Changes (improvements) women may have seen in the assuming distrimition remain fixed.
- $\beta_{m.1} \left( \Delta \underline{X}_1 \Delta \underline{X}_0 \right)$ : Changes in the characteristic's gaps between 2016 and 2022.
- $(\beta_{m,1} \beta_{m,0}) \Delta \underline{X}_0$ : Changes in the to the factors that benefit men's outcomes in the financial market

Additionally, the study will indirectly explore the impact of the COVID-19 pandemic on the gender gap in FI. By comparing the survey data from 2016 (pre-pandemic) and 2022 (post-pandemic), the research aims to assess the effects of the economic shock caused by COVID-19 on FI. Having access to data from 2016 and 2022 allow us to compare how did men and women fair

between the pre and post COVID period. While performing this intertemporal decomposition will not allow us to differentiate between trends and changes caused by Covid, given the significance of the pandemic, we expect that the difference we expect to find could be mostly attributed to the pandemic.

Given that only the 2022 survey includes indicators for financial technology, we will only assess the impact of financial technology on women's FI in 2022, because the comparative analysis between the two years requires is not possible. The logit regression for the FI for women in 2016 establishes a baseline understanding of women's FI. With this baseline, the 2022 data can then be scrutinized to identify changes in FI indicators alongside the introduction of financial technology. Conducting logit analysis for women FI in 2022 with financial technology as an independent variable can help discern potential associations between the adoption of financial technology and improvements in women's FI. While a direct comparison with 2016 may be challenging due to the absence of specific technology indicators, this approach allows for a within-year examination of the relationship between financial technology and women's FI, offering valuable insights into the potential impact of technological advancements over the specified period.

Financial technology index is a composite index which equal to one if the respondent owns or use at least one of the following services: electronic point of sale, mobile banking services, use of online banking, E-Wallet, or pay bills online).

### 3.2 Data

The analysis will be based on a secondary data from the FI Surveys conducted in Palestine in 2016 and 2022, by the Palestinian Central Bureau of Statistics (PCBS) in cooperation with The Palestine Monetary Authority (PMA) and the Palestinian Capital Market Authority (PCMA). In addition to the demographic (locality, region, gender, education, age, etc.) and socioeconomic indicators (job status, expenditure, employment sector, etc.), these two surveys provide a comprehensive information on financial access, usage, and quality indicators at the individual level, as well as information about reasons, obstacles, and gaps preventing the attainment of higher levels of FI). Surveys cover the formal Palestinian financial sector, both banking (like banks, and microfinance sector) and non-banking (like insurance sector, mortgage, leasing, and capital market), and presents some indicators of the proliferation of the informal financial sector. The study will develop various indices of FI based on the available data, capturing different dimensions of access, usage, and quality of financial services. Finally, sex-disaggregated data will provide a good chance for perceived barriers to women's FI and policy interventions to address these constraints.

### 3.3 Variables and Summary Statistics

Bank account variable denotes if respondent owns at least one type of formal bank account like saving account, current account and deposits account. Table one shows that the bank account ownership not exceed 35% for adults (18 years and above) in Palestine in 2022. The overall ownership of bank accounts increased from 27% in 2016 to 34.8% in 2022, which shows evolving

trend and suggests a dynamic landscape in FI over the specified period, with both genders showing changes in their access to banking services. However, it also reveals an increasing in the gender gap, which grew from 23.1% in 2016 to 28.2% in 2022 (5.1%).

Numbers in table to reveal shifts in borrowing patterns, which suggest nuanced changes in formal lending behaviors over the specified period. In 2016, the proportion of males borrowing from at least one formal source stood at 10.5%, experiencing a slight decline to 9.2% by 2022. Concurrently, for females, the corresponding figures decreased from 4.4% in 2016 to 2.9% in 2022. The overall percentage of individuals engaging in borrowing activities exhibited a downward trend, decreasing from 7.5% in 2016 to 6.1% in 2022. Palestinians normally prefer to borrow from non-financial sources, mainly family and friends (MAS, 2023). Many of the adults in Palestine are not able to comply with the borrowing requirements from the formal sources like banks and microfinance institutions.

The percentage of males holding private insurance (either private insurance policy or takaful insurance products) experienced substantial increase from 9.5% in 2016 to 19.8% in 2022. Similarly, for females, the ownership of private insurance policies rose from 3% in 2016 to 15.9% in 2022. The overall prevalence of individuals with private insurance witnessed a noteworthy surge, escalating from 6.5% in 2016 to 17.9% in 2022. These trends suggest a significant uptick in the adoption of private insurance policies over the specified period, indicative of a broader shift in insurance coverage among both genders.

Over the last six years, there has been a notable uptrend in FI index (*Owns* at least one type of bank account, or borrowing or insurance) for both genders. The percentage of financially included males experienced an upward trajectory, escalating from 42.7% in 2016 to 56.1% in 2022. Similarly, there was a substantial rise in FI for females, climbing from 18.8% in 2016 to 32.7% in 2022. Reflecting on the overall landscape, the aggregate percentage of adult individuals who are financially included witnessed a positive shift, ascending from 30.9% in 2016 to 44.6% in 2022. These figures underscore a commendable progression toward enhanced financial inclusivity for diverse segments of the population.

Variables also measure financial literacy among adult individuals, which measures their knowledge of basic financial accounts, financial terms, and regulatory authorities responsible for financial sectors. The financial literacy score for males witnessed an upward trend, rising from 39.8 points in 2016 to 45.8 points in 2022. Similarly, females experienced an increase in financial literacy, from 30 points in 2016 to 35.2 points in 2022. Looking at the broader picture, there was an overall enhancement in financial literacy among adult individuals, with the collective score increasing from 35 points in 2016 to 40.6 points in 2022.

Age in full years represents the average age of the surveyed population, which increased marginally from 35.9 in 2016 to 37.2 in 2022. This subtle shift indicates a gradual aging trend, influencing financial decisions and life planning.

The share of adult females in the surveyed population slightly decreased from 57.1% in 2016 to 51.9% in 2022. Understanding this demographic composition is crucial for tailoring financial services to diverse gender needs. The decrease may prompt a closer examination of factors affecting the gender balance within the surveyed population, influencing the design of targeted financial programs.

The percentage of illiterate individuals decreased from 2.0% in 2016 to 1.5% in 2022, showcasing progress in literacy rates and potential impacts on financial literacy. This positive shift suggests an improvement in basic education levels, contributing to increased financial awareness and decision-making capabilities among respondents.

Those with the ability to read and write exhibited consistent figures, with 5.3% for females and 5.0% for males in 2016, and 3.6% for both genders in 2022. Targeted literacy programs may address specific educational needs. Despite the decrease in overall literacy rates, efforts to address gender disparities and enhance literacy skills can play a vital role in promoting financial literacy among the surveyed population.

The percentage of individuals with an elementary education level slightly decreased from 15.6% in 2016 to 13.3% in 2022. This may reflect changes in educational attainment patterns. A reduction in elementary education levels could impact financial decision-making, highlighting the importance of understanding the evolving educational landscape for effective financial planning.

Preparatory education levels remained stable, with 30.8% for both genders in 2016 and a marginal decrease to 28.5% in 2022. This suggests a consistent educational pathway for a substantial portion of the surveyed population. While stability in preparatory education levels is noted, further investigation into factors influencing this trend can inform strategies for promoting higher education and advanced skill development.

Secondary education levels increased slightly from 28.1% in 2016 to 29.3% in 2022. This indicates ongoing educational attainment and may influence employment opportunities. The upward trend in secondary education levels is positive for long-term financial planning, as individuals with higher education often have enhanced economic prospects.

Individuals with an associate diploma remained stable, ranging from 5.6% to 7.1%. This segment represents specialized training and may impact workforce dynamics. The stability in associate diploma attainment suggests a consistent presence of individuals with specialized skills, emphasizing the importance of vocational training and its potential contribution to economic sectors.

The percentage of individuals with a BA/BSc degree increased slightly from 15.7% in 2016 to 20.0% in 2022. This suggests positive trends in higher education attainment. The rise in BA/BSc degrees signifies increased access to advanced education, potentially leading to improved employment opportunities and financial stability for respondents.

Health insurance ownership increased for both genders, with males rising from 77.6% in 2016 to 81.4% in 2022, and females from 80.0% to 84.5%. This indicates enhanced focus on health protection and financial preparedness. The notable increase in health insurance ownership reflects a growing awareness of the importance of health coverage in mitigating financial risks associated with medical expenses.

The percentage of individuals facing financial difficulties decreased from 54.9% in 2016 to 49.7% in 2022. Both males and females experienced a reduction, reflecting potential improvements in economic conditions. The decline in the percentage of individuals facing financial difficulties is a positive sign, suggesting potential economic growth and enhanced financial well-being for the surveyed population.

Respondents confident that their families can cover living expenses in less than a week decreased from 34.5% in 2016 to 26.2% in 2022. This provides insights into short-term financial resilience. The decrease indicates a potential challenge in short-term financial preparedness, highlighting the need for targeted interventions to enhance emergency savings and financial resilience.

Individuals estimating their families can cover living expenses in a week to less than a month slightly increased from 33.7% in 2016 to 35.4% in 2022. This reveals diverse financial preparedness among respondents. The slight increase suggests variations in financial planning strategies, emphasizing the importance of tailored financial education programs to address the diverse needs of the surveyed population.

The percentage of respondents anticipating their families can cover living expenses in one to less than three months increased from 15.3% in 2016 to 18.6% in 2022. This indicates a growing awareness of mid-term financial planning. The upward trend suggests an increasing focus on mid-term financial preparedness, possibly influenced by changing economic conditions and evolving financial literacy.

Individuals confident in their families' ability to cover living expenses in three to six months increased from 9.4% in 2016 to 12.4% in 2022. This suggests a positive shift in long-term financial preparedness. The increase in long-term financial preparedness indicates a potential improvement in overall financial stability and planning among the surveyed population.

Respondents expressing uncertainty about when their families can cover living expenses remained stable, ranging from 7.1% to 8.7%. This highlights a segment with ambiguous financial perceptions. The stability in this segment suggests the persistence of uncertainty regarding financial planning, underscoring the need for targeted financial education programs to address knowledge gaps.

Private sector employment declined from 35.7% in 2016 to 23.5% in 2022 for males and from 7.4% to 3.0% for females. These changes suggest potential shifts in employment opportunities. The decline in private sector employment may indicate changes in the economic landscape,

emphasizing the importance of adapting financial education programs to address the evolving employment dynamics.

Public sector employment increased for both genders, with males rising from 13.5% in 2016 to 27.3% in 2022, and females from 3.2% to 6.5%. These shifts reflect changes in government employment dynamics. The increase in public sector employment suggests potential shifts in job opportunities and may have implications for financial stability and social security.

Employment in other sectors exhibited variations, with males decreasing from 14.1% in 2016 to 15.8% in 2022 and females increasing from 1.8% to 2.5%. These trends indicate potential diversification in occupational choices. The variations in employment sectors suggest evolving occupational preferences, underscoring the importance of understanding factors influencing employment decisions among the surveyed population.

The percentage of unemployed individuals decreased from 11.2% in 2016 to 10.2% in 2022. This suggests improvements in job opportunities and overall economic conditions. The decline in unemployment rates is a positive indicator, reflecting potential enhancements in economic opportunities and employment conditions for the surveyed population.

The percentage of individuals not in the labor force remained stable, ranging from 50.6% to 50.2%. This segment represents individuals not actively seeking employment. The stability in the percentage of individuals not in the labor force underscores the existence of a segment choosing not to actively participate in the job market. Understanding the motivations behind this choice can inform policies and interventions to support individuals in this category.

Ownership of land exhibited variations, with males decreasing from 19.7% in 2016 to 15.6% in 2022 and females increasing from 8.0% to 8.2%. These changes may reflect shifts in property ownership patterns. The variations in land ownership patterns suggest changing dynamics in property acquisition, potentially influenced by economic factors and cultural shifts.

Vehicle ownership increased for both genders, with males rising from 19.0% in 2016 to 23.8% in 2022, and females maintaining a similar level. This suggests changes in mobility and potential economic prosperity. The increase in vehicle ownership signifies improved access to transportation and may reflect positive economic developments, contributing to enhanced mobility for the surveyed population.

Real estate ownership declined from 42.8% in 2016 to 11.8% in 2022 for males and from 16.0% to 5.6% for females. These changes may indicate shifts in housing preferences. The substantial decline in real estate ownership suggests changing preferences or challenges in property acquisition, influencing housing dynamics within the surveyed population.

Ownership of precious metals showed variations, with males increasing slightly from 5.0% in 2016 to 6.7% in 2022 and females decreasing from 24.9% to 14.2%. The variations in precious metal ownership may be influenced by economic factors and changing perceptions of valuable assets.

Understanding these shifts can provide insights into cultural and economic changes affecting asset preferences.

Table 1: Summary Statistics by Year and Gender

N (Sample Size) <b>Variables</b>	2016 Men	2016 Women	Total 2016	2022 Men	2022 Women	Total 2020
	1,868	1,820	3,688	3,706	3,618	7,324
Bank account (owns at least one type of formal bank account)	38.4%	15.3%	27.0%	48.7%	20.5%	34.8%
Borrowing (borrows from at least one formal source)	10.5%	4.4%	7.5%	9.2%	2.9%	6.1%
Insurance (owns at least one type of private insurance policy)	9.8%	3.0%	6.5%	19.8%	15.9%	17.9%
FI Index (Owns at least one type of bank account, or borrowing or insurance)	42.7%	18.8%	30.9%	56.1%	32.7%	44.5%
Financial literacy ( score from 0 to 100)	39.8	30.0	35.0	45.8	35.2	40.6
Age in full years (Average)	35.62	36.199	35.9	36.930	37.436	37.2
Share of adult females	43.7%	57.1%	50.3%	46.7%	51.9%	49.3%
Education level						
Illiterate	2.0%	6.2%	1.5%	1.5%	2.6%	2.0%
Can read and write	5.0%	5.3%	3.6%	3.6%	3.7%	3.6%
Elementary	15.6%	13.3%	10.9%	10.9%	8.9%	9.9%
Preparatory	30.1%	26.7%	30.8%	30.8%	26.1%	28.5%
Secondary	25.3%	27.2%	28.1%	28.1%	30.4%	29.3%
Associate diploma	6.8%	5.6%	6.2%	6.2%	7.1%	6.7%
BA/BSc	15.1%	15.7%	19.0%	19.0%	21.1%	20.0%
Health insurance	77.6%	80.0%	78.8%	81.4%	84.5%	82.9%
Poor (Some people suffer from their inability to cover their daily expenses).	55.5%	54.3%	54.9%	49.5%	49.8%	49.7%

Budget duration (which determine the time in which family can cover living expenses)						
Less than a week	30.4%	38.7%	34.5%	25.9%	26.5%	26.2%
From a week to less than a month	37.3%	30.0%	33.7%	34.8%	36.0%	35.4%
From one month to less than three months	16.0%	14.5%	15.3%	19.0%	18.3%	18.6%
From three months to six months	10.2%	8.6%	9.4%	14.1%	10.6%	12.4%
I don't know	6.1%	8.1%	7.1%	6.2%	8.7%	7.5%
Employment sector						
Private sector	35.7%	7.4%	21.7%	23.5%	3.0%	13.4%
Public sector	13.5%	3.2%	8.4%	27.3%	6.5%	17.0%
Other Sector	14.1%	1.8%	8.0%	15.8%	2.5%	9.2%
Unemployed	16.8%	5.5%	11.2%	13.9%	6.4%	10.2%
Not in labor force	19.9%	82.2%	50.6%	19.5%	81.5%	50.2%
What of the below-mentioned properties do you						
own?						
Land	19.7%	8.0%	13.9%	15.6%	8.2%	11.9%
Vehicles	19.0%	7.9%	13.5%	23.8%	7.9%	15.9%
Real estate such as an apartment	42.8%	16.0%	29.6%	11.8%	5.6%	8.8%
Precious metals	5.0%	24.9%	14.8%	6.7%	14.2%	10.4%

### 4. Results and Discussion

In this section, we address the research questions, which contributes to the existing literature on FI from a gender perspective, and provide insights that can inform policymakers, financial institutions, and other stakeholders in designing strategies and interventions to promote gender equality in financial services and bridge the existing gaps in Palestine.

### 1. The Determinants of FI

As a starting point, the FI index (adult owns at least one type of bank account, or borrowing or insurance) will be estimated through a Logistics regression (Logit model). In addition, the financial literacy will be estimated using a multiple OLS regression. By having the FI data for 2016 and 2022, these regressions would be useful for the decomposition explanation, if there is something odd in the aggregates (Rios-Avila, 2020). In addition, it lays the groundwork for a more nuanced exploration of gender gaps, helping differentiate between the effects of characteristics and market factors (Fairlie, 2005). This approach also allows researchers to discern whether observed gender gaps are primarily due to differences in individual characteristics or disparities in market conditions and coefficients, taking into account any significant contextual factors that may have influenced the gender gap during this period. This could include changes in economic conditions, policies or social norms that may have affected FI differently for males and females.

Results in Table 2 shows that for both 2016 and 2022, the likelihood of FI is positively related with age, i.e. as age increase the likelihood of adult people to be financially included increase for both male and female.

However, the coefficient of age grew for women between 2016 and 2020, while decreased for male in the same period. This aligns with the strong link between FI and labor market conditions. Economic participation and employment opportunities has a huge influence FI in Palestine (MAS, 2023), where older individuals have had more stable and consistent employment over the years, and so have greater access to financial services compared to younger individuals, who may face challenges in entering the workforce. Meanwhile, the unemployment is the highest for youth individuals, with roughly a third of all youth (15-29 years old) being unemployed in 2022, and around 36% for youth between 20-24 years (PCBS, 2023a). Also, the youth unemployment is very huge based on sex. Among females, youth unemployment (18-29 years old) surged to 59%, compared with 32% for female in 2022(PCBS, 2022). This explains the gap between male and female in regards with the estimated coefficient of age in Table 2 for both 2016 and 2022. Notably, the Gaza Strip experienced the highest unemployment rates compared to the West Bank, with figures standing at 75% for females and 30% for males. Additionally, the youth graduates holding an intermediate diploma or higher, witnessed the highest rate of unemployment rates at 48% in 2022, with a noticeable disparity based on sex— 34% for males and 61% for females (PCBS, 2023a).

Family structure represented by share of adult female in the household only has a positive and significant impact for female in 2022, which means that if there is more adult women in the household compared to adult men then females have more likelihood to be financially included. This can be explained by the positive association between education level and FI in Palestine which are very clear in the data, mainly in 2022 FI survey (MAS, 2023). Given that women are more enrolled in secondary and higher education (the percentage of female students enrolled in Palestinian higher education institutions, it reached 62% out of the total number of students enrolled in higher education institutions in 2021-2022) (MOHE, 2022), then we expect that the more female in the household, the more likelihood of adult women to be financially included. Also, A household with more adult females may indicate a supportive social environment for women's economic activities. In such settings, societal norms and support structures may favor women's FI, creating an environment where they are encouraged to participate in economic and financial endeavors.

Results in Table 1 unfold that generally, the more level of education the more likelihood of both males and females to be financially included for both 2016 and 2022, which emphasize the link between education and FI at both national and international levels (Ghosh and Vinod, 2017; Özşuca, 2019; MAS, 2023). However, females with bachelor degree (BA/BSc) have a little tendency (25.4) to be financially included compared to females with associate diploma (26.77). This is because women unemployment rate in Palestine is the highest for women with bachelor

and master degree (ESCWA, 2023). It is important to mention that the likelihood of FI is higher for males compared to females, which might be explained by the dynamics of labor market and education in Palestine; education is not sufficient for women to secure employment, as women's unemployment rate increases with their educational attainment, in contrast with men (MAS, 2022). Given that the FI has positive and strong association with employment in Palestine (Harker et al., 2019; Harker et al., 2023), we expect that males have more likelihood to be financially included. This result also matches with the previous literature (Ghosh and Vinod, 2017; Özşuca, 2019; MAS, 2023).

Having health insurance have a positive impact on the likelihood of women in Palestine to be financially included in both 2016 and 2022. Having accessible and affordable health insurance contributes to women's economic empowerment by ensuring that health concerns, which can be a significant barrier for women in Palestine to participate in the labor market. It is well-known that the lack of social protection system outside the public sector and formal private sector (mainly health insurance) is one of the main constraints that impede women in Palestine to be active labors. The disproportionate number of unemployed women graduates is a consequence of their unsuccessful pursuit of decent employment opportunities and social protection (ILO, 2011), and most unemployed women graduates were primarily searching for stable and formal jobs in the public sector or the formal private sector (ETF, 2014). Therefore, graduate women in Palestine mainly search for a job in the public sector or the formal private sector which provide social security net, namely health insurance and maternity leave, which might explain the high likelihood to be financially included. In contract to male who select to work in the informal sector and the Israeli labor market with weak availability of social security system.

Palestinian women are mostly employed in and are the majority of workers in service subsectors other than commerce, hotel, and restaurants. Most female university students study social sciences. Some 73 percent of employed women are in these service subsectors, with employment in education, public administration and health and social work comprising the largest share of female employees) and the public sector offers job security to family life (particularly for married female employees) and the public sector offers job security, while working in the health sector is generally seen as socially acceptable. At equal levels of education, women's average daily wage is about a third lower than their male colleagues' in nearly all sectors. At the same time, women entrepreneurship rates are low. Only 9 percent of private sector firms are female-headed.

For both men and women, we find that if the adult in the household are actively employed or have stable sources of income, then they will be more likely to be financial included. This means that employment provides individuals with opportunities to access formal financial services, such as banking and credit, contributing to their FI. It is interesting to mention that having job in the public sector provide more likelihood for both sexes to be financially included. This is due to the fact that all the public employees in Palestine are considered formal employment, where the informality is widespread in the private sector as well as among self-employed and nonpaid jobs. Formal data reveals that more than half of the Palestinian workers are classified as informal employment in

2022 (56% for males and 32% for females) (PCBS, 2023b). In this regard, both 2016 and 2022 data show that formal sector employees are more likely to receive their salaries through formal banking channels, such as direct deposit (MAS, 2023). This gives them easier access to basic financial services like savings accounts, electronic transactions, and other banking products. Also in Palestine, formal employees are generally perceived as more stable and creditworthy by banks and microfinance institutions (Morrar and Abdel Razeq, 2022a), which enable them to access credit and loans. However, the likelihood of FI for public employees decrease between 2016 and 2022, which explain the very limited jobs opportunities in the public sector in Palestine due to the financial crises that Palestinian government has faced in the last few years due to the occupation constraints and the Covid-19 crises, so the government was obligated to rationalizing employment in the public sector to the minimum (World Bank, 2019).

Poor men are less likely to be financially included in both 2016 and 2022, while this factor is not significant for women. It is well known in the Palestinian culture that men who are responsible for the livelihood of families Meanwhile, poor and marginalized women in Palestine have been targeted with large number of economic empowerment programs mainly through local and international NGOs, which aim to provide financial resources and support to women, particularly those in low-income communities, enabling them to start or expand small businesses.

Between the different properties that both adult men and women might have, only the owing of vehicles increases the likelihood of FI. This result is not surprising, knowing that all banks in Palestine has affordable lending programs mainly for individuals who have formal jobs (mainly in the public sector), while banks tighten in the lending for lands and apartments which are considered risky and associated with reliable guarantees and requirements.

**Table 2**: The determinants of FI by Gender for the Years 2016 and 2022

	(1)	(2)	(3)	(4)
Variables	2016	2016	2022	2022
	Male	Female	Male	Female
Age	0.572***	0.326***	0.473***	0.385***
Share of adult female	-0.0928	0.0680	0.0159	0.109*
Education level (illiterate is the reference				
group)				
Can read and write	21.94**	7.616*	12.48	6.942
Elementary	24.24***	10.70***	7.239	15.36***
Preparatory	32.07***	14.02***	13.50	10.03*
Secondary	37.71***	17.06***	19.93**	16.67***
Associate diploma	35.07***	29.02***	19.86**	26.77***
BA/BSc	49.55***	31.82***	33.73***	25.42***
Own health insurance	0.922	1.177	12.33***	11.72***
Poor	-5.673**	-0.101	-4.325*	2.022
Budget duration (less than one week is the refer	rence group	)		

From a week to less than a month	3.508	0.905	4.992*	-0.204
From one month to less than three months	8.029**	7.603**	5.059	3.203
From three months to six months	15.53***	18.19***	4.453	0.209
I don't know	1.714	1.374	-9.356**	-17.8***
Employment sector (private sector is the referen	ce group			
Public sector	45.77***	52.19***	17.59***	20.9***
Other sectors	8.890**	27.57**	28.45***	-14.64*
Unemployed	-16.9***	-4.092	-11.1***	-48.9***
Not in labor force	-7.973**	-7.300	-6.723*	-43.2***
Own lands	1.201	3.611	4.384	-0.118
Own vehicles	18.84***	17.18***	17.07***	18.09***
Own apartment	4.079	8.420**	-0.419	-0.744
Own precious metals	2.649	-0.809	1.894	2.315
Constant	-18.16	-16.44**	-2.610	23.11**
Observations	1818	1872	3665	3659
		* <i>p</i> <0.1; **	* p<0.05; **	** p<0.01"

Financial literacy in Palestine is a critical aspect of empowering individuals to make informed and effective financial decisions (Harker et al., 2013, Tikam and Hinn, 2023). Financial literacy focus on providing individuals with the knowledge and skills to manage their finances, understand banking services, and make sound investment choices. As we mentioned earlier, the financial literacy score witnessed an upward trend for men and women between 2016 and 2022. However, it still low around 46 points for male and 35 points for female, with a 9-points gender gap.

Low financial literacy for women may hinder their ability to engage with banking services, and make sound economic choices and financial decisions. It can impact their capacity to manage personal finances, save for the future, and participate confidently in economic activities (Bucher-Koenen et al., 2017).

Results in Table 3 show that the likelihood of financial literacy is the highest for young women, that mainly explained by the high enrollment of young women in the higher education (ESCWA, 2023), which reached 62% out of the total number of students enrolled in higher education institutions in 2021-2022) (MOHE, 2022). This result also emphasize the positive and strong association between education level and financial literacy in Table 2 for both men and women in 2016 and 2022. Education equips individuals with the tools to understand financial concepts, navigate the intricacies of the financial system, and make informed decisions about budgeting, investing, and managing personal finances.

Employability also is important for financial knowledge, both men and women that have higher rates of employment achieved a higher score of financial literacy. This analysis indicates that the

primary development of financial knowledge occurs through practical experience, specifically through the real-life use of financial products and services on a regular basis (MAS, 2013).

Equally for both men and women, results show that having stable sources of income will positively impact financial literacy. This also confirm the link between decent employment and financial literacy, because decent jobs are more able to provide sustain source of income and avoid falling into poverty.

**Table 3**: The Determinants of Financial Literacy by Gender for the Years 2016 and 2022

	(1)	(2)	(3)	(4)
	2016	2016	2022	2022
	Male	Female	Male	Female
Age	-0.0110	-0.0912*	-0.0104	-0.086**
Share of adult female	-0.0779*	0.0182	0.0251	-0.0446*
Education level (illiterate is the reference ga	roup)			
Can read and write	3.609	8.364***	2.624	2.884
Elementary	12.71***	13.54***	10.72**	5.130**
Preparatory	16.28***	14.30***	11.89***	8.461***
Secondary	20.21***	22.37***	19.49***	16.26***
Associate diploma	28.71***	28.59***	22.26***	19.83***
BA/BSc	29.63***	25.79***	26.84***	20.90***
Own health insurance	3.164**	-2.883*	1.294	-1.566
Poor	-2.873**	-1.737	2.101**	-1.314
Budget duration (less than one week is the	reference gra	oup)		
From a week to less than a month	-1.853	2.452*	4.581***	4.143***
From one month to less than three	1.884	6.077***	6.865***	5.573***
months				
From three months to six months	6.005***	9.185***	10.57***	10.23***
I don't know	-0.650	-2.578	-6.803***	-9.385***
Employment sector (private sector is the ref	erence group	<b>)</b> )		
Public Sector	1.235	18.90***	2.512*	-6.284**

Other sectors	-0.532	-1.584	1.828	-0.347
Unemployed	-12.62***	8.768**	-3.546**	-6.189*
Not in labor force	-1.911	1.881	0.762	-10.14***
Own lands	1.426	3.909**	-0.293	4.337***
Own vehicles	0.0510	0.848	3.170***	0.264
Own apartment	1.246	-3.812**	-2.317*	-3.631*
Own precious metals	-6.946***	0.346	5.426***	2.190
Constant	25.87***	13.06***	20.66***	35.02***
Observations	1818	1872	3665	3659
		* <i>p</i> <0.1; **	p < 0.05;	*** p<0.01"

### 4.2 Decomposition of FI Gender Gap

In this section we explore what factors contribute to the FI gender gaps in 2016 and 2022, namely the factor which explained by differences in characteristics (reflecting the advantages men may have over women in terms of variations in individual attributes such as socioeconomic and demographic characteristics), and the factors which explain the market structure disadvantage (usually related to discrimination) that women face. It is important to emphasize the importance of coefficient analysis to understand the factors contributing to disparities before and after 2022. The analysis promises a nuanced understanding of the evolving dynamics shaping FI trends.

In the last few years, Palestine implemented rising actions toward FI, for example, Palestine was one of the first Arab countries who developed a comprehensive national strategy to tackle financial exclusion (2018-2025), which has situated low-income people, women and youth as a priority in regards with interventions and projects. Both the PMA and PCMA have dedicated programs to promote gender-based FI like the promotion of digital financial tools (e.g. e-payment services and electronic wallet), and several services and campaigns to facilitate access to various financial services (Harker et al., 2023). Despite these interventions by the regulatory bodies in Palestine (PMA and PCMA) to bridge the gender gap in FI after 2016, results of KOB decomposition approach combined with RIF-regression in Table 4 show that the FI gender gap has preserved its high level of 24% in both 2016 and 2022. The same with financial literacy gender gap which has maintained its level around 10%.

In general, 41% (9.8/23.9) of the disparity in FI in 2016 is due to the difference in the coefficients or the market structure disadvantages (usually related to discrimination) that women face. These

market structure disadvantages expanded in 2022 to around 46%, which means that women still facing cultural and social obstacles which hinder their access to FI. Moreover, around 59% of the gap is due to the differences in characteristics reflecting the advantages men may have over women in terms of socio demographic characteristics (explained variation or endowments effect). This explained gap decreased to around 54% in 2022.

The financial literacy gender gap is mainly explained by the difference in the coefficients or the market structure disadvantages, which increased from 66.5% in 2016 to 100% in 2022. This means that all the financial literacy gender gap in 2022 is explained by the differential effect of the covariate entered in the model including general effect of unknown factors (constant).

In Palestine, women often find themselves economically reliant on men, a circumstance perpetuated by societal expectations and the influence exerted by parents or spouses over financial matters, employment decisions, and the ability to engage in work (Roald, 2013). These dynamics arise from deeply ingrained gender norms. The financial dependence of women on men extends beyond their capacity to work, encompassing their ability to independently manage their finances. Statistics from the 2022 FI survey (MAS, 2023) show that only between 51% and 63% of women in Palestine exert full control over their income, which mainly control by men (their husband, father, or both) (Harker et al., 2023). Consequently, the shift towards increased female participation in the labor market does not necessarily translate into an enhancement of women's autonomy in regards of FI and financial literacy.

The differential effects of employment sector have the greatest contribution to unexplained variation in both FI and financial literacy mainly in 2022, which might be explained by the market structure disadvantage (usually related to discrimination) that women face in the labor market (ESCWA, 2013).

Analysis explores the influence of education levels on discrimination. In 2016, higher discrimination against educated women was revealed in regards with FI. However, the discrimination against educated women disappeared by 2022, which means that the more women in the higher education, the less discrimination they might face in the accessibility to FI.

Among the endowments for both FI and financial literacy, working in the public and private sectors, and having stable source of income are responsible for the main explanatory power. In other words, reducing the difference of these factors between women and mean adults will lead to a reduction of most of the explained disparity.

Results also show that older men in 2016, on average, tend to have higher FI levels than women of the same age. Over years, the gender gap narrows slightly among older individuals, indicating a positive trend for women in FI across different age brackets.

Finally, transformation from positive discrimination in 2016 to no discrimination in 2022 indicates a positive shift in women's access to insurance which contributed to their financial literacy.

 Table 4: Decomposition of FI Gender Gap Decomposition in 2016, 2022

	(2016)	(2016)	(2022)	(2022)
	FI Index	Financial Literacy	FI Index	Financial Literacy
Aggregate		Little		Little
Total Difference	23.943***	9.803***	23.445***	10.594***
Difference in the coefficients (discrimination)	9.833***	6.514***	10.744***	10.742***
Difference in the characteristics	14.110***	3.289**	12.702***	-0.148
N	11014	11014	11014	11014
Difference in the coefficient				
Age	8.906*	2.903	3.307	2.839
Share of Adult Female	-9.187	-5.491*	-4.855	3.615
Education level				
Can read and write	0.762	-0.253	0.207	-0.010
Elementary	1.795	-0.110	-0.723	0.498
Preparatory	4.812**	0.527	0.906	0.895
Secondary	5.621**	-0.588	0.992	0.982
Associate diploma	0.339	0.007	-0.491	0.172
BA/BSc	2.785*	0.603	1.756	1.255
Health insurance	-0.204	4.840***	0.512	2.416
Poor	-3.029*	-0.617	-3.163**	1.702**
Budget duration				
From a week to less than a month	0.782	-1.293**	1.869	0.158
From one month to less than three months	0.062	-0.609*	0.339	0.236
From three months to six months	-0.230	-0.274	0.448	0.036
I don't know	0.028	0.156	0.738*	0.225
Employment sector (other sector is the				
reference group)				
Public sector	-0.207	-0.570***	1.155***	0.574**
Private sector	-0.329	0.019	1.067***	0.054
Unemployed	-0.697	-1.164***	2.435***	0.170
Not in labor force	-0.554	-3.117	29.720***	8.894***
Own land	-0.193	-0.198	0.368	-0.379**
Own vehicles	0.130	-0.063	-0.081	0.230
Own apartment	-0.694	0.808**	0.018	0.074
Own precious metals	0.859	-1.812***	-0.060	0.460
Constant	-1.726	12.812*	-25.721*	-14.352**
Difference in the characteristics				
Age	-0.326	0.006	-0.239	0.005
Share of Adult Female	1.251	1.050*	-0.084	-0.132
Education level				

Can read and write	-0.062	-0.010	-0.021	-0.004
Elementary	0.569	0.298	0.142	0.210
Preparatory	1.114	0.565	0.624	0.550*
Secondary	-0.732	-0.392	-0.464	-0.454
Associate diploma	0.428	0.350	-0.174	-0.195
BA/BSc	-0.295	-0.177	-0.727	-0.578
Health insurance	-0.022	-0.076	-0.380*	-0.040
Poor	-0.065	-0.033	0.013	-0.007
Budget duration				
From a week to less than a month	0.256	-0.135	-0.061	-0.056
From one month to less than three	0.119	0.028	0.039	0.053
From three months to six months	0.239	0.093	0.157	0.374***
I don't know	-0.035	0.013	0.232*	0.169*
Employment sector (other sector is the				
reference group)				
Public sector	4.708***	0.127	3.653***	0.522*
Private sector	1.100**	-0.066	3.784***	0.243
Unemployed	-1.915***	-1.430***	-0.832**	-0.266**
Not in labor force	4.969**	1.191	4.168*	-0.473
Own land	0.140	0.166	0.325	-0.022
Own apartment	2.101***	0.006	-0.026	-0.144*
Own precious metals	1.096	0.335	-0.142	-0.407***
Constant	-0.526	1.380***	0.000	0.000
Observations	0.000	0.000	11014	11014

### 4.3 Decomposition of Intertemporal FI Gender Gap

Intertemporal decomposition allow us to differentiate between trends and changes in the gender gap regarding FI and financial literacy. Given the significance of the pandemic, we expect that the difference we expect to find could be mostly attributed to the pandemic.

Table 5 shows the Oaxaca-Blinder intertemporal decomposition between men and women regarding FI and financial literacy (see the full Table 5.1 in the appendix). Results reveal that the financial gap seems to have worsen or not changed, in most aspects. Only in terms of "having a private insurance" experienced a decline in the gap (2.95 per cent). In details, there is a grow in the disparity of owing bank account between men and women, in favor of men. Meanwhile, we found no change in gender gap in regards of borrowing, the overall FI, and financial literacy.

A lot of the changes between 2016 and 2022 seem to be driven by changes in discrimination (the gap explained by the changes in coefficients gap), followed up by changes in Men's returns.

The negative contribution of change in discrimination in regards of having a private insurance shows that the decreasing in gender gap in respect to the private insurance is mainly attributed to

the decline in discrimination over time. Meanwhile, the positive contribution of change in discrimination in terms of financial literacy demonstrates that the increasing in gender gap in terms of financial literacy is mainly attributed to the rising of discrimination over time.

Discussion revolves around the increase in the proportion of women in households, contributing to the widening gender gap in financial literacy overtime. The implications of this demographic shift are explored, providing insights into how changes in household composition influence the overall financial literacy.

The deterioration of women conditions in the Palestinian labor market (high unemployment, low participation rate, and informality) have the greatest contribution to the growth of intertemporal gender discrimination in terms of FI and financial literacy. This cannot be disconnected from the impact of COVID-19 pandemic on the Palestinian labor market mainly for women (UN Women, 2021; ESCWA, 2023). Working women are considered one of the groups most affected by the coronavirus pandemic in Palestine (MAS, 2021c). A large percentage of women, especially in the informal labor market, were forced to leave their jobs. It is estimated that the time spent by women in unpaid work is 7.4 times that spent by men, one of the highest rates in the world (MAS, 2021c). Moreover, Palestinian women encountered different forms of discrimination in both the formal and informal labor markets, which was intensified after the onset of the COVID-19 pandemic (UN Women, 2021; ESCWA, 2023). In addition to job losses, this was also manifested in gender wage gap mainly in the private sector, low representation in the senior leadership positions, limited access to social protection like maternity leave, end of service payments, sick leave, etc. (Fallah et al., 2023).

Poverty and unstable income sources are also key drivers to the increasing of women financial exclusion. Being poor women (or women in poor household) significantly contributes to the growth in gender discrimination in terms of financial literacy between 2016 and 2022. This can be explained by the negative consequences of COVID-19 on the Palestinian women. The challenges faced by women were exacerbated by the COVID-19 pandemic compounded by the negative effects of restrictions imposed by Israel's occupation of the West Bank and Gaza (UN Women, 2021). This led to a decline in female participation rate in the national labor market, women unemployment rate, and increase in poverty rate mainly for female-headed households. Approximately 29.2 percent of individuals were living below the poverty level in 2017, indicating that around one in three people faced economic hardship. Notably, the Gaza Strip had a significantly higher poverty rate compared to the West Bank, with 53 percent of individuals in Gaza identified as poor in 2017. This stark contrast underscores the considerable disparity, with the poverty rate in the Gaza Strip being more than four times higher than the rate in the West Bank, which stood at 13.9 percent (PCBS, 2018). However, it is higher among female-headed households; around 20 percent of individuals residing in households headed by females experience severe poverty, struggling to meet the basic necessities of food, clothing, and housing, compared with 17 percent of households headed by males. The incidence of poverty grew steadily due to the

negative percussions of COVID-19 pandemic; the widespread impact of the coronavirus has significantly increased the number of individuals facing poverty in the West Bank and Gaza Strip. This has also given rise to a "new impoverished class" directly linked to the circumstances created by the COVID-19 pandemic. More than 100,000 Palestinian families fell into a cycle of poverty due to the impact of the COVID-19 pandemic (MAS, 2021b). World Bank estimated that the number of poor households increased by 30% in the West Bank and 64% in the Gaza Strip (World Bank 2020a).

Table 5: Decomposition of Intertemporal FI Gender Gap between 2016 and 2022

	(1)	(2)	(3)	(4)	(5)
	Bank Account	Borrowing	Insurance	Total	Financial Literacy
Aggregate					
Total change in gap	5.055**	0.171	-2.945*	-0.497	0.791
Change in discrimination	4.591	1.623	-11.732***	-1.007	4.045**
Change in women's endowment	1.832	-0.021	0.840	1.918	0.184
Change in endowment gap	2.010	-0.120	1.486	2.391	0.838
Changes in men's returns	-3.378	-1.310	6.460**	-3.800	-4.276**
N	11014	11014	11014	11014	11014
Change in Discrimination					
Age	-3.246	0.090	-6.271	-5.903	-0.163
Share of adult female	9.292	1.183	2.602	3.495	8.605**
Education level (illiterate is the reference	group)				
Can read and write	-0.061	-0.248	-0.545	-0.327	0.168
Elementary	-0.947	-0.948**	-1.178	-1.930	0.572
Preparatory	-3.121	-1.693	-3.482	-3.812	0.379
Secondary	-4.050	-2.614*	-2.211	-5.295	1.639
Associate diploma	-0.340	-0.423	-0.843	-0.920	0.163
BA/BSc	-1.412	-1.521	-3.566	-1.989	0.444
Health insurance	6.070	3.002	-4.909*	0.727	-2.692
Poor	0.589	1.412	-2.301	-0.386	2.268**
Budget duration (less than one week is th	e reference g	group)			
From a week to less than a month	1.929	1.004	-1.185	0.933	1.706*
From one month to less than three	0.098	0.279	0.574	0.261	1.001*
From three months to six months	0.399	0.410	-0.516	0.730	0.372
I don't know	0.389	0.250	-0.268	0.708	0.057

Employment sector (other sector is the reference group)						
Public sector	1.564**	-1.099**	0.918	1.574**	1.728***	
Private Sector	1.542***	-0.100	0.555**	1.530***	0.028	
Unemployed	3.252***	0.110	1.385**	3.259***	1.545***	
Not in labor force	33.254***	1.182	5.888	30.269***	11.986***	
Own land	0.518	0.019	0.223	0.566	-0.176	
Own vehicles	-0.416	0.166	0.550	-0.212	0.293	
Own apartment	-0.145	-0.092	0.493*	0.262	-0.210	
Own precious metals	-0.152	-1.277**	-0.665	-0.551	1.497***	
Not in labor Force	-0.012	-0.004	-0.006	-0.022	0.002	
Own land	-0.065	0.024	-0.122	-0.187	0.012	
Own vehicles	0.791**	0.195*	1.354**	0.809**	0.150*	
Own apartment	-1.480**	-0.943*	0.304	0.087	0.479*	
Own precious metals	0.620	-0.98***	-1.227***	0.234	0.671***	
Constant	0.000	0.000	0.000	0.000	0.000	

### 4.4 Financial Technology and Gender FI

This paper also aims to analyze how the adoption of technology for financial transactions has influenced the women FI. In other words, it investigates if the promoting of gender-responsive financial systems and leveraging technology will lead to more inclusive and equitable economic development in Palestine. By understanding these dynamics, policymakers and stakeholders can formulate targeted interventions to promote inclusive and gender-responsive financial systems. Table 7 shows the determinants of FI and financial literacy for both men and women in 2022. For simplicity, only age, share of adult female, educational level, poor, are used as explanatory variables. It is important to emphasise that we will estimate the impact of financial technology on FI in 2022 only, as we mentioned earlier, 2016 FI survey didn't include indicators about financial technology.

Before we discuss the impact of financial technology on the likelihood of both men and women to be financially includes, we will decompose the financial technology gender gap, which will provide a deep understanding about the socioeconomic and demographic factors which that can explain the disparities either because of differences in characteristics (explained variation or differences in endowment) or which explained by the by the market structure disadvantage (unexplained variation or discrimination).

Table 6 shows the Oaxaca-Blinder decomposition between men and women regarding financial technology usage. Results display a notable gender gap (14.76%) in favor of men, which means that men have 14.7% access to FI compared to women. This means that the adoption of modern financial technologies may be slower among women who may face barriers related to technology literacy or access to digital financial services.

In general, 57% (8.348/14.76) of the disparity was due to the difference distribution of the predictors (endowments). In other words, 47% of the gap is explained by differences in characteristics reflecting the advantages men may have over women in terms of socio demographic characteristics (Explained variation). Furthermore, 43% of the gap is explained by the market structure disadvantage (usually related to discrimination) that women face. In other words, 43% of the disparity was attributed to the differential effect of the covariate entered in the model (coefficients effect) including general effect of unknown factors (constant), which specifies the unexplained portion of the disparity.

Among the endowments, the ownership of properties, working in the public and private sectors, and having stable source income are contributed the most. In other words, reducing the difference of these factors between women and men adults will lead to a reduction of most of the explained disparity.

Furthermore, the differential effects of property ownership (cars and real state), age, and education level (BA/BSc), respectively, have the greatest contribution to unexplained variation, which might be explained by the market structure disadvantage (usually related to discrimination) that women face. The negative contribution of property ownership and age implies that removing the women/men difference in property ownership and age widens the disparity. While, the positive sign of education level reveals higher discrimination against educated women. High unemployment rates among women are partially explained by the type of educational specialties that they choose (Morrar et al., 2022b). Due to social norms, most women tend to become teachers or nurses. According to PCBS data (PCBS, 2023), teaching and healthcare are among the top specialties for women. This high influx of women into specific sectors ultimately leaves many women unemployed, due to the limited number of vacancies in these sectors (Al-botmeh, 2013). This explains data presented later in the report showing that a low percentage of women who hold a bachelor's degree happen to have limited access to financial technology.

**Table 6:** Oaxaca-Blinder Decomposition Results for the Gender Gap in Financial Technology, 2022

Variables	Overall	Explained	Unexplained
Men	22.40***		
Women	7.633***		
Difference	14.76***	8.348***	6.416***
Age		0.0959	-6.839*
Share of adult female		-0.218	1.752
Education Level (illiterate is the reference group)			
Can read and write		-0.00029	0.029
Elementary		-0.00206	-0.188

0.100	
0.108	0.0806
-0.245	1.764
-0.0988	0.371
-0.529	3.067***
-0.00223	-0.638
0.00893	-0.645
-0.0345	0.0000885
0.0833	0.711
0.433*	0.295
0.223*	-0.504
1.889**	-0.564
1.151*	0.296
-0.694**	0.192
3.091	2.934
0.0171	-4.972
2.403***	-7.329*
0.931***	-14.26***
-0.264	0.492
30.37**	
7322	
	-0.0988 -0.529 -0.00223 0.00893 -0.0345 0.0833 0.433* 0.223* 1.889** 1.151* -0.694** 3.091 0.0171 2.403*** 0.931*** -0.264 30.37**

Table 7 below discusses the impact of financial technology on the likelihood of both men and women to be financially includes in 2022, one year after the dangerous repercussions of Covid-19 pandemic on the Palestinian socioeconomic conditions, knowing that 2022 witnessed a decline in the negative consequences of the pandemic shock and recovery in the economic and social indicators.

The results reveal a significant influence of financial technology on the likelihood of FI, particularly favoring women compared to men score. This implies that women may experience a slightly more pronounced positive effect from financial technology in terms of their FI. The elevated impact score for women emphasizes the potential of technology-driven financial services to narrow disparities and improve accessibility for female individuals, potentially addressing specific challenges they encounter within traditional financial systems. These findings underscore the importance of ongoing exploration and implementation of fintech solutions to continually enhance FI, particularly for women who stand to gain significantly from advancements in financial technology.

Also, while results of the regression analysis also show a positive impact of financial technology on financial literacy, it also shows a varying impact based on sex, with a slightly higher value for men (9.03) compared to women (7.6). for females. The socio-demographic factor in Palestine can be addressed through financial literacy, including digital financial literacy (Tikam & Hinn, 2023). When outside the financial system, financial literacy levels can be lower compared with people who are part of the formal financial system.

Internationally, the COVID-19 pandemic has expedited the adoption of digital financial services (World Bank Group, 2021; USAID, 2022), given that social distancing measures hindered people from visiting physical branches of financial institutions. In Palestine, there has been a modest rise in the utilization of mobile and electronic banking services. Notably, the growth rate in the use of conventional (physical) banking channels, such as branches, surpassed that of electronic banking (Tikam & Hinn, 2023). Meanwhile, the pandemic has deteriorated the situation of women in the Palestinian labor market, who lost around 11% of jobs (UN Women, 2021). Therefore, with lockdowns and restrictions in place, remote work and online transactions for women in Palestine became more prevalent. The COVID-19 pandemic further fueled the expansion of e-commercebased businesses in Palestine (Morrar and Khalidi, 2020), mainly for women, which encouraged them to explore and utilize digital financial tools like remote banking, payments, and other financial transactions (Morrar and Khalidi, 2020; UN Women, 2021; Tikam & Hinn, 2023). In other words, there has been an increased emphasis on reducing and substituting the use of cash with digital payments during the COVID-19 pandemic, and the increase in e-commerce transactions for women has consequently resulted in an increase in digital payments, primarily in relation to the use of debit cards (World Bank, 2021).

Also, governments and financial institutions in Palestine introduced measures to facilitate financial transactions and support citizens during the pandemic. For example, the Palestine Monetary Authority (PMA) granted licenses to five e-payment companies—Palpay, Jawwal Pay, Malachat, Middle East Payment Services (MEPS), and MadfooatCom—in early 2020. These companies primarily offer e-wallet and point-of-sale (POS) services, with Palpay facilitating bill payments through POS channels to certain service providers (Morrar and Khalidi, 2020; USAID, 2022).

**Table 7:** The Impact of Financial Technology on FI and Financial Literacy Based on Sex, 2022

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	FI	FI Male	FI Female	Financial	Financial	Financial
				Literacy	Literacy	Literacy
				Male	Male	Female
						_
Age	0.0190***	0.0179***	0.0194***	-0.090***	-0.0645***	-0.114***
Share of adult female	0.0074***	0.00297	0.009***	-0.00783	0.0355	-0.0326**
Sex (Female=1)	-0.982***			-9.696***		

Use of financial technology	2.770***	2.701***	2.867***	8.614***	9.031***	7.671***			
Education Level (illiterate is the reference group)									
Can read and write	0.705***	0.864***	0.767***	2.076	0.987	2.935			
Preparatory	0.920***	0.962***	1.076***	7.030***	8.796***	4.959***			
Associate diploma	1.127***	1.434***	0.959***	11.79***	13.71***	9.318***			
Can read and write	1.127***	1.381***	1.033***	15.99***	16.79***	14.74***			
Preparatory	1.493***	1.438***	1.661***	22.93***	22.99***	22.37***			
Associate diploma	1.786***	2.007***	1.761***	25.17***	25.97***	23.82***			
Own health insurance	0.759***	0.686***	0.901***	2.636***	2.981***	2.284**			
Poor	0.102*	0.203***	-0.000465	0.198	-0.203	0.565			
Budget duration (less than one week is	the reference	group)							
less than a week	0.0664	0.271***	-0.133	2.791***	3.027***	2.484***			
From one month to less than three months	0.127	0.213*	0.0368	6.012***	7.300***	4.564***			
less than a week	0.231**	0.514***	-0.0518	8.963***	8.833***	9.171***			
From one month to less than three months	-0.557***	-0.163	-1.055***	-7.640***	-6.592***	-8.664***			
Constant	-3.017***	-3.187***	-3.908***	25.81***	21.34***	20.27***			
Observations	7,324	3,665	3,659	7,324	3,665	3,659			

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 6. Conclusion and Policy Implications

By conducting a comprehensive analysis of the data collected from the FI surveys conducted in 2016 and 2022, this study aims to identify and analyze the factors that contribute to the gender gap in accessing financial services, and the factors that contributed to the progress in the gender gap across these years. The research will shed light on socio-cultural norms, financial literacy levels, legal frameworks, and other key factors that hinder women's FI in Palestine.

The determinants of FI and financial literacy were analyzed using linear regression models. In general, they suggest older men, on average, tend to have higher FI levels than women of the same age, which is explained with the strong link between FI and labor market conditions. Household composition plays a pivotal role in shaping financial access. Findings indicate that households with a higher proportion of women contribute to the likelihood of female to be financially included. Also, the more level of education the more likelihood of both males and females to be financially included, which emphasize the link between education and FI at both national and international levels. However, females with bachelor degree (BA/BSc) have a little tendency to be financially included because of the high unemployment rate for graduate females. For both men and women, we found that if the adult in the household are actively employed or have stable sources of income, they will be more likely to be financial included. Meanwhile, the likelihood of financial literacy is the highest for young women, and positive and strong association between education level and financial literacy were found for both men and women. Both men and women that have higher rates of employment achieved a higher score of financial literacy.

This paper also explored the factors that contribute to the FI gender gaps in 2016 and 2022. Despite these interventions by the regulatory bodies in Palestine (PMA and PCMA) to bridge the gender gap in FI after 2016, results found that the FI gender gap has preserved high level of 24% in both 2016 and 2022. The same with financial literacy gender gap which has maintained its level around 10%. The market structure disadvantages expanded from 41% in 2016 to 46% 2022 to around 46%, which means that women still facing cultural and social obstacles which hinder their access to FI. The financial literacy gender gap is mainly explained by the difference in the coefficients or the market structure disadvantages, which increased from 66.5% in 2016 to 100% in 2022.

The gender gap narrows slightly among older individuals, indicating a positive trend for women in FI across different age brackets. Also, household composition plays a pivotal role in shaping the gender gap in financial access. Findings indicate that households with a higher proportion of women contribute to reducing the gap in FI for both men and women. Also, the market structure disadvantage (usually related to discrimination against women) dominated in 2022. Meanwhile, the discrimination against educated women disappeared by 2022. Working in the public and private sectors, and having stable source of income are responsible for the main explanatory power.

Intertemporal decomposition allow us to differentiate between trends and changes in the gender gap regarding FI and financial literacy. Results reveal that the financial gap seems to have worsen or not changed, in most aspects. Only in terms of "having a private insurance" experienced a decline in the gap (2.95 per cent). A lot of the changes between 2016 and 2022 seem to be driven by changes in discrimination (the gap explained by the changes in coefficients gap), followed up by changes in Men's returns. The deterioration of women conditions in the Palestinian labor market during the COVID-19 pandemic have the greatest contribution to the growth of intertemporal gender discrimination in terms of FI and financial literacy. Meanwhile, the negative consequences of COVID-19 compounded by the negative effects of restrictions imposed by Israel's occupation of the West Bank and Gaza led to a decline in female participation rate in the national labor market, increasing in women unemployment rate and poverty mainly for female-headed households. These factors significantly contributed to the growth in gender discrimination in terms of financial literacy between 2016 and 2022.

Finally, this paper also analyzed how the adoption of technology for financial transactions can influence women FI. Results found that the adoption of modern financial technologies may be slower among women who may face barriers related to technology literacy or access to digital financial services. The ownership of properties, working in the public and private sectors, and having stable source income are contributed the most, while the differential effects of property ownership (cars and real state), age, and education level (BA/BSc), respectively, have the greatest contribution to unexplained variation, which might be explained by the market structure disadvantage (usually related to discrimination) that women face.

Results found a significant influence of financial technology on the likelihood of FI, particularly favoring women compared to men score, which might be explained by the positive impact of COVID-19 on the adoption of digital financial services. With lockdowns and restrictions in place, remote work and online transactions for women in Palestine became more prevalent. Also, the pandemic further fueled the expansion of e-commerce-based businesses in Palestine, mainly for women, which encouraged them to explore and utilize digital financial tools like remote banking, payments, and other financial transactions.

Overall, the evidence we find here is that one of the positive effects from COVID-19 is that it may have help deepening final development, as it happened in other developing countries. In particular, the creation of innovative digital financial services and better financial literacy, has translated into a larger share of the population with access to various types of financial services such as banking, insurances, and loans. However, while women have also benefit from some of this improvement in financial access, their relative improvement, compared to men, has shown less progress. The more notable examples are the widening gap in terms of access to banking accounts, although with a moderate improvement in terms of access to insurance markets.

With the goal of fostering gender equality, the Palestinian government should aim to continue their efforts in expanding financial services and financial literacy. At the same time, it is necessary for them to make an effort and create policies that target improve access for women, aiming to reduce the discrimination women face. Furthermore, given that some of the main reason why women still lag behind men in terms of FI is due to lack of autonomy/and jobs, policies that improve likelihood of women to participate in the formal labor market should be pursue. This not only would increase financial independence of women, but will give them the opportunity to use financial services, improving their inclusion in the financial market.

At the household level, monetary control is often vested in men, such as husbands or fathers. Therefore, the implementation of public provisions emerges as a potentially effective strategy for increasing the utilization of financial products and services, especially among those with limited or minimal incomes. This can be achieved through the introduction of innovative gender-specific services, like a public bank or a publicly managed cooperative bank. These institutions could offer essential credit services, manage government transfers (such as benefit payments), and lead educational initiatives. Unemployment or being outside the labor force poses a significant hurdle to both FI and closing the gender gap in financial literacy. Addressing this necessitates requires substantial government interventions to empower women in the economy. This includes initiatives such as providing anti-gender-bias training, reinforcing the social protection system (including ensuring private sector compliance with minimum wage and labor law conditions, introducing flexible working hours, enhancing maternity and paternity leave, etc.), and developing financial products and services tailored for women. The expansion of mobile service centers, resembling mobile libraries, to reach women in rural or conflict-prone areas where a permanent physical presence may be risky, is also crucial. Additionally, the provision of financially viable products and delivery systems that cater to the needs of low-income women and women-led Micro, Small, and Medium-sized Enterprises (MSMEs) is essential.

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# **Appendix**

Table 5.1: Decomposition of Intertemporal FI Gender Gap between 2016 and 2022

	(1)	(2)	(3)	(4)	(5)
	Bank	Borrowing	Insurance	Total	Financial
	Account				Literacy
Aggregate					
Total change in gap	5.055**	0.171	-2.945*	-0.497	0.791
Change in discrimination	4.591	1.623	-11.732***	-1.007	4.045**
Change in women's endowment	1.832	-0.021	0.840	1.918	0.184
Change in endowment gap	2.010	-0.120	1.486	2.391	0.838
Changes in men's returns	-3.378	-1.310	6.460**	-3.800	-4.276**

N	11014	11014	11014	11014	11014			
Change in Discrimination								
Age	-3.246	0.090	-6.271	-5.903	-0.163			
Share of adult female	9.292	1.183	2.602	3.495	8.605**			
Education level (illiterate is the refere	nce group)							
Can read and write	-0.061	-0.248	-0.545	-0.327	0.168			
Elementary	-0.947	-0.948**	-1.178	-1.930	0.572			
Preparatory	-3.121	-1.693	-3.482	-3.812	0.379			
Secondary	-4.050	-2.614*	-2.211	-5.295	1.639			
Associate diploma	-0.340	-0.423	-0.843	-0.920	0.163			
BA/BSc	-1.412	-1.521	-3.566	-1.989	0.444			
Health insurance	6.070	3.002	-4.909*	0.727	-2.692			
Poor	0.589	1.412	-2.301	-0.386	2.268**			
Budget duration (less than one week i	s the referen	ce group)						
From a week to less than a month	1.929	1.004	-1.185	0.933	1.706*			
From one month to less than three	0.098	0.279	0.574	0.261	1.001*			
From three months to six months	0.399	0.410	-0.516	0.730	0.372			
I don't know	0.389	0.250	-0.268	0.708	0.057			
Employment sector (other sector is the reference group)								
Public sector	1.564**	-1.099**	0.918	1.574**	1.728***			
Private Sector	1.542***	-0.100	0.555**	1.530***	0.028			
Unemployed	3.252***	0.110	1.385**	3.259***	1.545***			
Not in labour force	33.254***	1.182	5.888	30.269***	11.986***			
Own land	0.518	0.019	0.223	0.566	-0.176			
Own vehicles	-0.416	0.166	0.550	-0.212	0.293			
Own apartment	-0.145	-0.092	0.493*	0.262	-0.210			
Own precious metals	-0.152	-1.277**	-0.665	-0.551	1.497***			
Constant	-40.413**	2.531	3.021	-23.995	-27.16***			
Change in Women's endowment								
Age	0.214	0.014	0.153	0.304	0.099			
Share of adult female	1.205*	-0.410	-0.058	0.837	0.500*			
Education level (illiterate is the refere	nce group)							
Can read and write	-0.140	-0.106	-0.088	-0.228	0.076			
Elementary	-0.298	-0.367*	-0.330	-0.589	0.036			
Preparatory	-0.075	-0.034	-0.046	-0.094	-0.010			
Secondary	0.521	0.257	0.106	0.665	-0.070			
Associate diploma	0.006	0.144	0.117	0.091	0.002			
BA/BSc	0.917	0.456*	0.424	0.960	0.208			
Health insurance	-0.038	0.045	0.082	-0.011	0.269**			
Budget duration (less than one week is the reference group)								
From a week to less than a month	0.101	-0.136	0.222	0.154	-0.255*			
From one month to less than three	0.053	0.032	0.107	0.016	-0.156			
From three months to six months	-0.000	-0.073	0.139	-0.052	-0.062			

I don't know	0.013	-0.010	0.034	0.002	0.012
Employment sector (private sector is t	he reference	group)			
Public sector	-0.253	0.767***	-0.034	-0.212	-0.583***
Private sector	-0.136	0.012	-0.004	-0.133	0.008
Unemployed	-0.095	-0.001	-0.047	-0.126	-0.211
Not in labour force	0.002	-0.008	-0.048	0.004	0.025
Own land	-0.009	-0.000	0.010	-0.005	-0.005
Own vehicles	0.001	-0.000	0.002	0.001	-0.000
Own apartment	-0.162	-0.148	0.007	0.450	-0.524**
Own precious metals	-0.198	-0.399	0.179	-0.368	0.775***
Constant	0.000	0.000	0.000	0.000	0.000
Change in Endowment Gap					
Age	0.034	0.008	-0.004	0.031	-0.001
Share of adult female	0.692	0.669**	0.794*	0.131	0.206
Education level (illiterate is the refere	nce group)				
Can read and write	0.011	-0.001	-0.004	0.014	0.003
Elementary	-0.036	-0.002	0.021	-0.028	-0.041
Preparatory	0.155	0.051	-0.076	0.155	0.137
Secondary	-0.077	-0.013	0.013	-0.078	-0.076
Associate diploma	-0.478	-0.161	0.081	-0.416	-0.466
BA/BSc	-0.583	-0.135	0.108	-0.526	-0.418
Health insurance	-0.038	-0.031	-0.085	-0.082	-0.009
Poor	0.110	-0.073	-0.044	0.063	-0.031
Budget duration (less than one week i	s the referen	ice group)			
From a week to less than a month	-0.510*	-0.050	-0.246	-0.425	-0.390**
From one month to less than three	-0.064	-0.013	-0.033	-0.036	-0.049
From three months to six months	0.176	0.026	0.014	0.089	0.211
I don't know	0.007	-0.004	0.043	0.044	0.032
Employment sector (private sector is t	he reference	group			
Public sector	2.072***	1.174***	0.545**	1.844***	0.263*
Private sector	0.299	0.021	0.006	0.263	0.017
Unemployed	0.385	0.124	0.050	0.426	0.136
Not in labour Force	-0.012	-0.004	-0.006	-0.022	0.002
Own land	-0.065	0.024	-0.122	-0.187	0.012
Own vehicles	0.791**	0.195*	1.354**	0.809**	0.150*
Own apartment	-1.480**	-0.943*	0.304	0.087	0.479*
Own precious metals	0.620	-0.98***	-1.227***	0.234	0.671***
Constant	0.000	0.000	0.000	0.000	0.000
Changes in Men's Returns	`				
Age	-0.045	-0.058	0.194	0.056	-0.000
Share of adult female	-1.901	-0.618	-1.123	-1.466	-1.388*
Education level (illiterate is the refere	nce group)				
Can read and write	0.023	0.022	0.026	0.027	0.003

Elementary	-0.185	-0.227	-0.332	-0.399	-0.047		
Preparatory	-0.406	-0.228	-0.645	-0.645	-0.153		
Secondary	0.245	0.146	0.212	0.345	0.014		
Associate diploma	-0.116	-0.122	-0.205	-0.185	-0.079		
BA/BSc	0.062	0.019	0.125	0.094	0.017		
Health insurance	-0.163	-0.108	-0.227	-0.275	0.045		
Poor	-0.032	0.001	0.030	0.015	0.057		
Budget duration (less than one week is	s the referen	ce group)					
From a week to less than a month	0.207	0.227	0.078	0.108	0.470**		
From one month to less than three	0.006	0.022	0.031	-0.044	0.074		
From three months to six months	-0.125	0.025	-0.066	-0.171	0.070		
I don't know	0.101	-0.063	0.257	0.223	0.124		
Employment sector (private sector is the reference group)							
Public sector	-2.750***	-2.17***	0.342	-2.898***	0.131		
Private sector	2.695***	0.324	0.648	2.421***	0.292		
Unemployed	0.326	0.215	0.255	0.657	1.028***		
Not in labour force	-1.880	-1.073	4.835**	-0.779	-1.666		
Own land	0.321	-0.177	-0.323	0.371	-0.200		
Own vehicles	0.415	0.256	0.972**	-0.197	0.348*		
Own apartment	0.142	0.443	-0.324	-1.209	-0.957*		
Own precious metals	-0.317	1.842**	1.699*	0.150	-2.459***		
Constant	0.000	0.000	0.000	0.000	0.000		
Observations	11014	11014	11014	11014	11014		
		* <i>p</i> <0.1;	** <i>p</i> <0.05;	*** p<0.01"			