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The Gender Gap in the Caribbean: The Performance of Women-Led Firms

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While several Caribbean countries have largely endorsed and ratified many United Nations conventions on gender equity—such as the 1979 Convention on the Elimination of All Forms of Discrimination against Women and the 1993 Declaration on the Elimination of Violence Against Women—there remain significant deficiencies in implementation (Bailey, 2003).

Studies on gender issues that focus on the Caribbean are scarce, but some general conclusions can be drawn from the Gender Inequality Index calculated by the United Nations Development Programme and based on gender gaps in literacy, life expectancy, and income.¹ A cursory glance at the 2014 rank of the 13 countries presented in this chapter² provides a very heterogeneous picture: The Bahamas ranked highest at 55th, followed by Barbados (57th) and Antigua and Barbuda (58th), with Guyana ranked lowest at 124th (Suriname ranked 103rd and Belize 101st).

In the Caribbean, the expected years of schooling for women are always higher than for men, and the percentage of the female population with at least some secondary education is also higher than for the

male population (except in Suriname and Trinidad and Tobago, where the percentage of men with some secondary education is slightly higher than women).

Flabbi et al. (2014) used International Labour Organisation (ILO) data to calculate the average share of women in the labor force in the Caribbean. At 46 percent, the share was only 2 percentage points lower than in the United States and higher than the average for Latin American countries (40 percent). Nevertheless, the World Development Indicators³ show that the average rate of female unemployment in the Caribbean is more than 5 percentage points higher than that of men. Females are also less likely to be promoted or elected into positions of authority. As reported in Flabbi et al. (2014),

¹ Data are available at <http://hdr.undp.org/en/composite/GDI> (accessed on January 5, 2016).

² Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

³ Data are available at <http://data.worldbank.org/data-catalog/world-development-indicators> (accessed on January 5, 2016).

in 2012, 433 of the top 500 Latin American companies had no women senior executives and only nine had a woman CEO. This was confirmed in a report by ILO (2015) stating that in Jamaica and Saint Lucia the share of women-managers in businesses was higher than men but that women were mainly concentrated in middle management positions and under-represented in the most senior positions.

The statistics presented above suggest that, while women are well represented in the workforce, in the Caribbean there are still important disparities in top management. This chapter aims to investigate whether this under-representation is justified by poorer productivity in firms managed or owned by women. Thanks to the wealth of information available in the Productivity, Technology, and Innovation (PROTEqIN) database and following some recent evidence that showed that definitions matter when estimating the gender gap (Presbitero, Rabellotti, and Piras, 2014), this study adopted a set of more precise measures of female ownership and management of a firm than those traditionally used in cross-country investigations. Accordingly, we expected the results to differ depending on alternative (more or less restrictive) measures of gender composition in a firm's management and ownership.

The empirical analysis pooled all available countries to estimate a single model for identifying a common pattern in the Caribbean. Moreover, it investigated possible differences across countries and industries. The results showed no gender gap in performance considering the gender composition of firm ownership; however, women-managed firms were less productive than similar firms. While most of the gender gap was not explained by differences in observable characteristics, the results suggest that some firm characteristics for which there was evidence of a significant gender gap—such as size and access to financing—mattered for productivity.

The Literature on Gender Gap and Firm Productivity

There has been considerable research investigating gender differences in firm performance, using a

variety of indicators, mainly focused on advanced economies (Wolfers, 2006; Smith, Smith, and Verner, 2006; Gagliarducci and Paserman, 2015; Flabbi et al., 2014). Klapper and Parker (2011) reviewed the related empirical literature and concluded that the underperformance of women-led businesses is usually explained by the lack of controls for the size or scale of the firm's operations. Of note, companies led by women are usually younger, less productive, less innovative, and operate on a smaller scale as well as in less capital-intensive and less efficient industries compared to male-led firms (Aterido, Beck, and Iacovone, 2013; Bruhn, 2009; Sabarwal and Terrell, 2008).

With a focus on Latin America and the Caribbean, Flabbi et al. (2014) analyzed a large dataset of publicly traded companies and found that companies with more female members on the board were significantly more likely to have one female among the firm's executives and that, when women were at least 30 percent of the executives, there was a positive association with firm performance, therefore confirming the existence of a "critical mass" effect (Kanter, 1977).

Ferdinand (2001) examined the factors affecting female entrepreneurship in small and cottage industries in three Caribbean countries (Barbados, Suriname, and Trinidad and Tobago). The study found that female-owned businesses dominated the microenterprise segments of retail and distribution, agriculture, and light manufacturing (e.g., textiles and garments)—activities with reduced potential for growth and profit.

Some studies (e.g., Aterido et al., 2013; Presbitero et al., 2014) have suggested that access to financing is a possible cause of the productivity gap between women- and men-led businesses. Other studies (e.g., Orser et al., 2010; Marques, 2015) have suggested that different export propensity between firms led by women and men may be a reason for the gender gap. Chen, Leung, and Evans (2015), among others, indicated that the innovative potential of a firm and the propensity to invest in research and development and introduce innovation may be affected by the gender composition

of ownership and management. Finally, women-led businesses could be at a disadvantage compared to similar men-led firms when it comes to access to government-sponsored support programs that can foster firm productivity. All of these determinants are investigated in the empirical analysis that follows to see whether women-led businesses were particularly exposed to such constraints.

Gender Gap in the Caribbean

For a broad general picture of the gender composition of ownership and management within firms, the following analysis was based on the World Bank Enterprise Survey (WBES),⁴ which included 130,000 private firms in 135 countries. The survey provided two indicators:

1. The presence of at least one woman among the owners (female owner).
2. Firms where the top manager is a woman (female top manager).

While certainly informative, these two measures had some limitations. With regard to ownership, they did not make it possible to disentangle different levels of female ownership involvement. In particular, it was not possible to single out those firms in which women-owned the majority of the firm. Moreover, in determining the gender of management, the WBES only took into consideration those firms with a female top manager, therefore discounting the different levels of female involvement in managerial responsibilities (Presbitero et al., 2014). Nevertheless, the advantage of these indicators was that they provided empirical evidence about the role of women within the firms in a large sample of countries, therefore making it possible to benchmark the Caribbean countries.

Considering the proportion of firms with female participation in ownership, the Caribbean countries had relatively high ratios (above 40 percent) relative to the average for all countries in the survey (35.3 percent). Nonetheless, it is important to note the wide heterogeneity in the region, with

countries like Suriname, Antigua and Barbuda, and Saint Lucia well below the regional average.

Taking into account the proportion of firms with a woman as the top manager, a female led more than 30 percent of firms in Belize, Guyana, and St. Vincent and the Grenadines, slightly over the WBES average (29 percent). But again there was a wide heterogeneity within the region, with Antigua and Barbuda, Barbados, Trinidad and Tobago, and Suriname, having less than 20 percent of firms with top female managers.

To benchmark female participation in ownership and top management in the Caribbean based on the large sample of countries included in the WBES, we estimated a gender frontier. The basic model presupposed that countries that had made the most progress in gender issues thanks to some structural characteristics would be on the gender frontier. In contrast, when a country having a similar level of structural endowments is less advanced in gender issues, it would lie below the gender frontier.

Using a tool similar to that outlined by Hussainy et al. (2011) in relation to financial development, we estimated the following regression equation:

$$GD_i = \beta X_i + \varepsilon_i \quad (1)$$

where GD_i is the measure of gender outcomes (ownership and top manager)⁵ for country i , X_i is a matrix of structural conditions in the country, and is an error term that is assumed to have normal properties.

The structural factors included in the model specification were real gross domestic product (GDP) per capita, age dependency, educational attainment, health, and survival. Real GDP per capita was included to capture the potential benefits that economic prosperity might bring to women. The

⁴ More information about the WBES is available at <http://www.enterprisesurveys.org> (accessed January 11, 2016).

⁵ The two outcomes are calculated as indicated above and are the average values over 2002 and 2015 or for the period available for the different countries included in the WBES.

age dependency ratio captured the social pressures for women to stay at home to take care of children and older members of the family, as well as the pressure to enter the labor force. Improved health (i.e., life expectancy) and educational outcomes (i.e., enrollment ratios) should result in greater female participation in business.⁶

Equation 1 was used to predict the benchmark level of gender outcomes for each country in the WBES. Then, the gender gap was defined as the difference between the benchmark and the actual level. A positive (negative) gap value would therefore indicate that the country was under (over) performing relative to the rest of the countries in the survey.

The results from estimating Equation 1 are presented in Table 6.1, which provides the results for both gender indicators: (1) percent of firms with female participation in ownership; (2) percent of firms with a female top manager. In both cases, the model explains almost 10 percent of the variation in the two gender variables examined. The coefficient

estimates were broadly in line with a priori expectations, with a higher enrollment ratio in secondary school being positively associated with both higher female ownership and participation in top management. Surprisingly, however, the coefficient on the GDP per capita suggested that wealthier countries had comparatively lower ratios of female ownership in business and female participation in management. This result does not mean that the absolute values of the ratios in these relatively more developed countries were lower, but it suggests that, relative to less developed counterparts, a higher rate of participation of females in business ownership and top management would be expected. In the regression on firms with a female top manager, the most important explanatory factor was the age dependency ratio.

Based on the regression results presented in Table 6.1, the predicted and actual values were used to estimate the gender gap in each country included in the database. The results (Table 6.2) suggest that the Caribbean was overperforming relative to other countries included in the survey, as the gender gap was negative for most Caribbean countries for which data were available. The gender gap indicator, which was derived from the share of firms with a female top manager, showed that nine out of the 10 countries considered presented a negative value. The measure of over- or underperformance was also similar considering the share of firms with female participation in ownership: six of the 10 countries had a negative value for the gender gap indicator.

The results presented above suggest that, based on their fundamental economic and social characteristics, Caribbean businesses are likely to have a relatively higher ratio of female participation in management and in ownership. In the following sections, we investigate the potential impact of female participation on firm productivity using data from the PROTEqIN database, which making it possible to more precisely measure the presence of women in firms.

TABLE 6.1. The Gender Frontier

	Percent of firms with female participation in ownership	Percent of firms with a female top manager
Ln (GDP per capita)	-0.146 (0.086)*	-0.174 (0.112)
Ln (dependency ratio)	-0.074 (0.331)	-0.817 (0.441)*
Ln (enrollment ratio in secondary education)	0.416 (0.187)**	0.384 (0.252)
Ln (life expectancy at birth)	0.120 (0.538)	-0.730 (0.733)
Constant	2.751 (2.950)	9.046 (4.022)**
R-squared	0.071	0.113
Root MSE	0.535	0.639
F-statistic	2.330 [0.059]	3.230 [0.015]
Observations	127	107

Source: WBES.

Notes: *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level. Standard errors are reported in parentheses.

⁶ Data are from the World Development Indicators Database (see Footnote. 3). For each country, we considered the average values for 2002 and 2015.

TABLE 6.2. Estimated Gender Gap for Select Caribbean Countries

	Female participation in ownership	Firms with female top manager
Antigua and Barbuda	0.398	-0.134
The Bahamas	-0.677	-0.712
Barbados	-0.269	-0.389
Belize	0.050	0.644
Grenada	-0.511	-0.387
Jamaica	-0.134	-0.423
Saint Lucia	0.001	-0.401
St. Vincent and the Grenadines	-0.792	-0.790
Suriname	0.464	-0.021
Trinidad and Tobago	-0.471	-0.194

Source: Authors' calculations on WBES.

A Focus on the Gender Composition of Caribbean Firms

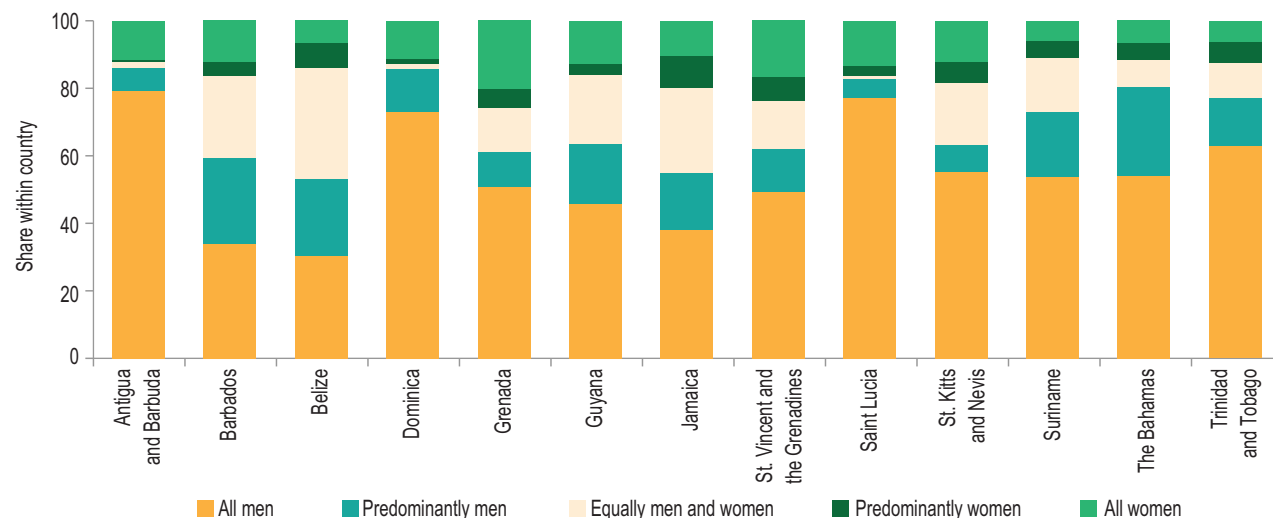
The following analysis was based on the micro data from the PROTEqIN survey completed in 13 Caribbean countries: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, St. Kitts and Nevis,

St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. The survey was a follow-up to the Latin American and Caribbean Enterprise Survey (LACES) implemented jointly by the Inter-American Development Bank, Compete Caribbean, and The World Bank. The PROTEqIN survey added new sections to WBES covering issues such as innovation and public program support. It targeted 1,680 respondents drawn from LACES.

PROTEqIN provides a wealth of information to precisely measure the presence of women in ownership and management of Caribbean firms and to assess their role in a firm's strategic decisions. The gender composition of a firm's management and ownership is classified in five categories: all men, predominantly men, equally men and women, predominantly women, and all women. Based on this information, it is possible to look at the relative incidence of women in ownership and management across countries and industries (Figures 6.1 and 6.2).

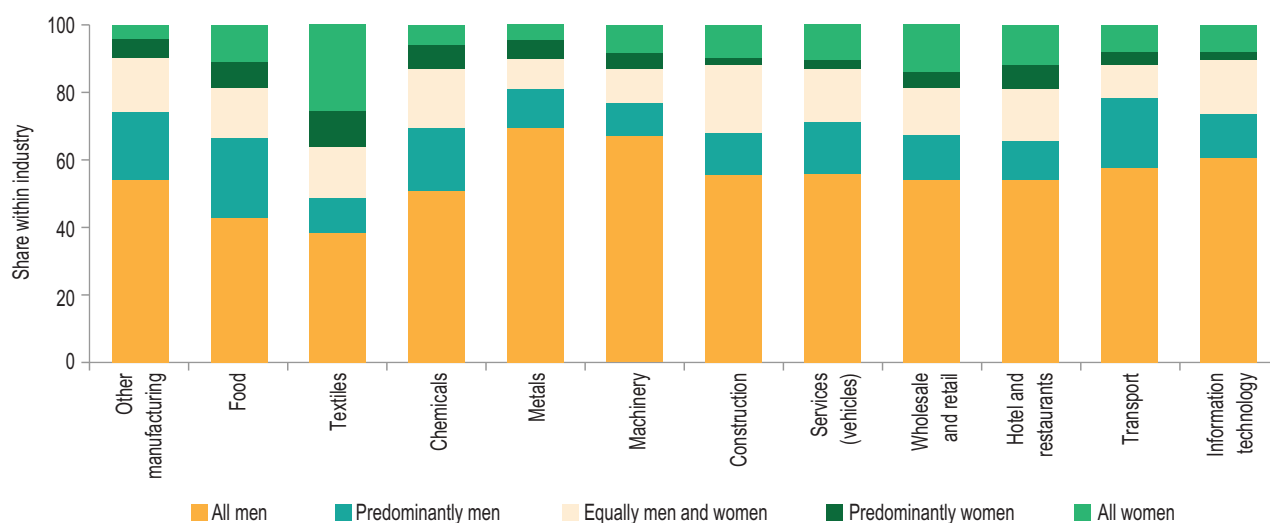
In several countries (Antigua and Barbuda, The Bahamas, Dominica, Saint Lucia, St. Kitts and Nevis, Suriname, and Trinidad and Tobago) more than 50 percent of the firms included in the survey were exclusively owned by men. Only three countries (Grenada, Jamaica, and St. Vincent and the Grenadines) had at least 20 percent of

FIGURE 6.1. Gender Composition of Firm Ownership in the Caribbean, by Country



Source: PROTEqIN.

FIGURE 6.2. Gender Composition of Firm Ownership in the Caribbean, by Industry



Source: PROTEqIN.

firms with female predominance among owners. Regarding sector specialization, as expected, the textile industry had the highest presence of female owners. The food, retail, restaurant, and transport industries also showed a relatively high share of firms owned by or predominantly by women.

Looking at women in management, the data showed a lower share of firms managed only by men, but in Antigua and Barbuda, Barbados, Dominica, Grenada, Jamaica, Saint Lucia, St. Kitts and Nevis,

Suriname, and Trinidad and Tobago the share of firms predominantly managed by men was over 60 percent. The countries with at least 20 percent of companies predominantly managed by women were The Bahamas, Barbados, Belize, Grenada, Guyana, and St. Vincent and the Grenadines. In terms of sector specialization, again the textile, food, retail, and restaurant industries had predominantly female managers.

Table 6.3 confirms the limited overlap between the two categories: ownership and management.

TABLE 6.3. Gender Composition within Firm Ownership and Management (by number of firms)

		Ownership					Total	% of total
		All men	Predominantly men	Equally men and women	Predominantly women	All women		
Management	All men	297	41	46	22	37	443	22.7
	Predominantly men	411	153	111	46	81	802	41.2
	Equally men and women	170	52	75	20	27	344	17.7
	Predominantly women	109	47	37	15	22	230	11.8
	All women	73	2	12	2	40	129	6.6
	Total	1,060	295	281	105	207	1,948	100.0
	% of total	54.4	15.1	14.4	5.4	10.6	100.0	

Source: Authors based on PROTEqIN data.

TABLE 6.4. Gender Composition in Ownership and Management across Firm Characteristics (by percent of firms)

	Sole proprietorship		Ownership		Markets			Sector	
	No	Yes	Domestic	Foreign	Local	National	International	Manufacturing	Services
Women-led	0.064	0.158	0.105	0.068	0.099	0.098	0.103	0.093	0.102
Dominant owner	0.120	0.228	0.169	0.110	0.166	0.147	0.194	0.150	0.165
Dominant manager	0.161	0.225	0.192	0.148	0.193	0.166	0.239	0.152	0.201
Female owner	0.589	0.239	0.449	0.524	0.490	0.431	0.445	0.474	0.454
Female top manager	0.191	0.268	0.228	0.177	0.233	0.201	0.239	0.178	0.241
Observations	1,246	720	1,655	311	953	858	155	660	1,306

Source: Authors based on PROTEqIN data.

In particular, women were more likely to be part of the management structure, rather than being one of the owners. Ownership was fully in the hands of men in 54.4 percent of firms, while only 22.7 percent of firms were fully managed by men.

Table 6.4 presents five different indicators of gender composition in management and ownership of firms based on the PROTEqIN survey.

Women-led refers to firms with a woman as the major owner or shareholder and, among these firms, selects those in which the owner is in charge of major strategic and financial decisions (Presbitero et al., 2014). This dummy variable had restrictive conditions regarding the female presence in ownership and management so that we could be reasonably sure that the firm was actually led by a woman. By contrast, the standard variables used in the WBES did not identify firms with a woman as the main owner and decision maker unless the analysis was limited to sole proprietorships, where ownership and management responsibilities coincide. In other firms, this is not necessarily the case. In the sample, 54 percent of women who were top managers worked in firms where either all owners or the majority of owners were men. *Dominant owner* and *dominant manager* are dummy variables to identify firms with predominantly female ownership or management. *Female owner* and *female top manager* are dummy variables to distinguish firms with at least one woman among the owners or managers. These five gender variables measure different aspects (and intensity) of the gender composition of firms.

When looking at the structural features—sole proprietorship; domestic or foreign owned; local, national, or international market; and sector specialization (see Table 6.4)—along with the gender composition of firms, some key facts emerged and held across all indicators. First, women were more likely to play a greater role in management and ownership in sole proprietorships, which is consistent with the common finding that women-led businesses are smaller than men-led ones. Second, women tended to operate more domestic firms rather than foreign-owned ones. Third, there were no striking differences in export orientation or in specialization in the manufacturing or service sectors, even though there was a higher presence of women in managerial positions in services rather than in manufacturing.

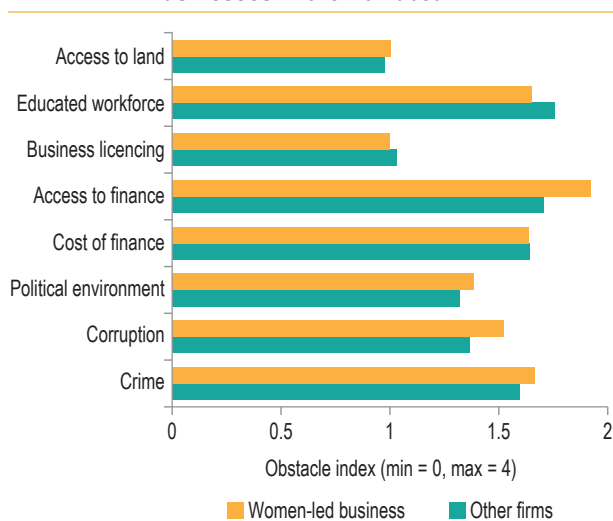
Finally, the richness of the questionnaire made it possible to observe that women-led businesses perceived some barriers—access to financing (but not cost), crime, corruption, and the political environment—as more severe obstacles to their business activities than men-led firms (Figure 6.3).⁷

Gender Composition and Firm Characteristics

The component of women in ownership and management is likely to differ along different firm

⁷ Similar findings held, with some minor differences, across the other four gender indicators. For brevity, results are not shown, but they are available on request from the authors.

FIGURE 6.3. Major Obstacles for Women-Led Businesses in the Caribbean



Source: Authors based on PROTEqIN data.

characteristics that can be associated with performance. This section shows the results of a study of whether women-owned and/or managed firms were different from other firms in terms of:

- **Size:** measured as the logarithm of the number of employees.
- **Age:** calculated by the logarithm of the number of years since the firm's inception.
- **Export:** a dummy variable with the value of 1 if the firm sold abroad and 0 otherwise.
- **Innovation:** a dummy variable with the value of 1 if the firm had recently introduced a new or significantly improved product or service and 0 otherwise.
- **Access to credit:** two dummy variables: (1) **Demand for bank credit**, with a value of 1 if the firm had asked a bank for credit and 0 otherwise; (2) **Financing as an obstacle**, with a value of 1 if the firm perceived access to credit as a major obstacle and 0 otherwise.
- **Technical assistance:** a dummy variable with a value of 1 if the firm had benefited from any technical assistance programs and 0 otherwise.

We ran a set of simple regressions, including, alternatively, each of the five gender indicators presented in the previous section, and country and

sector fixed effects. As a second step, we augmented each model with a set of standard firm-level controls to better identify the gender gap and avoid attributing it to possible omitted variables. Depending on the nature of the dependent variable, the models were estimated as Linear or Probit.

Gender and firm size. Consistent with a large body of literature (Aterido et al., 2013; Bardasi, Sabarwal, and Terrell, 2011; Bruhn, 2009; Sabarwal and Terrell, 2008), Table 6.5 shows that firms with some female participation defined according to the five alternative gender indicators previously introduced, are significantly smaller than other firms. This finding was also robust when including firm-level variables, even though the point estimates were generally halved.

Gender and firm age. The results were less clear-cut for gender and firm age (Table 6.6). When women were predominant in management (*dominant manager*), the coefficient was statistically significant, as was the case for women-led businesses, but the latter correlation did not hold once firm-level controls were included in the regression model, suggesting that the correlation was driven by an omitted variable (i.e., size).

Gender and export propensity. Consistent with what is shown in Table 6.4, the results for gender and exporting did not support the hypothesis that the gender composition of a firm is a significant predictor of the likelihood of being present in international markets. This was true even without controlling for other firm characteristics (Table 6.7).

Gender and innovation. We considered the possibility of a gender gap in a firm's propensity to innovate, assuming women may be more risk averse (Croson and Gneezy, 2009; Dohmen et al., 2011) and, therefore, less prone to innovate (Chen et al., 2015). Table 6.8 shows that the empirical evidence did not support this assumption.⁸

⁸ Results (which, for brevity, are not shown, but are available on request from the authors) were confirmed when we measured the propensity to innovate with a dummy for firms that had a research and development department.

TABLE 6.5. Gender Composition and Firm Size

Dependent variable: size	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.401*** (0.085)	-0.193** (0.081)								
Dominant owner			-0.328*** (0.069)	-0.194*** (0.063)						
Dominant manager					-0.262*** (0.069)	-0.138** (0.060)				
Female owner							0.067 (0.054)	-0.173*** (0.052)		
Female top manager									-0.416*** (0.062)	-0.278*** (0.057)
Age		0.479*** (0.038)		0.481*** (0.038)		0.475*** (0.038)		0.479*** (0.038)		0.470*** (0.038)
Export (0/1)		0.190*** (0.066)		0.198*** (0.066)		0.191*** (0.066)		0.184*** (0.066)		0.188*** (0.066)
Innovation (0/1)		0.178*** (0.065)		0.171*** (0.065)		0.175*** (0.065)		0.182*** (0.065)		0.165** (0.065)
Foreign ownership (0/1)		0.426*** (0.071)		0.421*** (0.071)		0.423*** (0.071)		0.425*** (0.071)		0.410*** (0.070)
Sole proprietorship (0/1)		-0.516*** (0.049)		-0.514*** (0.049)		-0.527*** (0.049)		-0.593*** (0.052)		-0.523*** (0.048)
Financing as an obstacle (0/1)		-0.152*** (0.052)		-0.154*** (0.052)		-0.163*** (0.052)		-0.160*** (0.052)		-0.159*** (0.052)
Technical assistance (0/1)		0.089 (0.066)		0.086 (0.066)		0.085 (0.066)		0.084 (0.066)		0.088 (0.065)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
R-squared	0.112	0.296	0.112	0.297	0.109	0.296	0.102	0.298	0.123	0.303
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Linear regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

TABLE 6.6. Gender Composition and Firm Age

Dependent variable: age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.090*	-0.009								
	(0.052)	(0.050)								
Dominant owner			-0.026	0.038						
			(0.042)	(0.040)						
Dominant manager					-0.125***	-0.079**				
					(0.040)	(0.038)				
Female owner							0.025	0.008		
							(0.032)	(0.032)		
Female top manager									-0.123***	-0.045
									(0.036)	(0.035)
Size		0.184***		0.185***		0.182***		0.184***		0.182***
		(0.015)		(0.015)		(0.015)		(0.015)		(0.015)
Export (0/1)		0.066*		0.064*		0.068*		0.066*		0.067*
		(0.038)		(0.038)		(0.038)		(0.038)		(0.038)
Innovation (0/1)		0.073*		0.074*		0.073*		0.073*		0.072*
		(0.039)		(0.039)		(0.039)		(0.039)		(0.039)
Foreign ownership (0/1)		-0.071*		-0.071*		-0.073*		-0.071*		-0.073*
		(0.042)		(0.042)		(0.042)		(0.042)		(0.042)
Sole proprietorship (0/1)		-0.019		-0.023		-0.016		-0.016		-0.019
		(0.032)		(0.032)		(0.031)		(0.034)		(0.031)
Financing as an obstacle (0/1)		-0.059*		-0.060*		-0.060*		-0.059*		-0.059*
		(0.033)		(0.033)		(0.033)		(0.033)		(0.033)
Technical assistance (0/1)		0.027		0.029		0.023		0.028		0.027
		(0.036)		(0.036)		(0.036)		(0.036)		(0.036)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
R-squared	0.083	0.186	0.082	0.186	0.087	0.188	0.082	0.186	0.087	0.186
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Linear regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

Gender and access to credit. Tables 6.9 and 6.10 confirm a gender gap in access to financing when considering the gender indicator *women-led*, supporting what was found by Presbitero et al. (2014) on a smaller sample of Caribbean countries. We found robust evidence that women-led firms were less likely to ask for credit from a bank but also to

consider access to financing as a severe obstacle to business activities than other firms, even controlling for firm characteristics. Demand for credit was also confirmed for female-owner firms (Table 6.9).

Gender and technical assistance. Finally, we considered the possibility that firms with a significant

TABLE 6.7. Gender Composition and Firm Propensity to Export

Dependent variable: export	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.017	0.123								
	(0.125)	(0.129)								
Dominant owner			0.104	0.237**						
			(0.094)	(0.096)						
Dominant manager					0.039	0.140				
					(0.092)	(0.097)				
Female owner							0.077	-0.050		
							(0.073)	(0.080)		
Female top manager									-0.099	0.004
									(0.089)	(0.092)
Size		0.116***		0.120***		0.116***		0.111***		0.114***
		(0.036)		(0.036)		(0.036)		(0.036)		(0.036)
Age		0.122**		0.121**		0.125**		0.122**		0.122**
		(0.058)		(0.058)		(0.058)		(0.058)		(0.058)
Innovation (0/1)		0.436***		0.441***		0.437***		0.441***		0.438***
		(0.089)		(0.089)		(0.089)		(0.089)		(0.089)
Foreign ownership (0/1)		0.257***		0.266***		0.261***		0.256***		0.257***
		(0.094)		(0.094)		(0.094)		(0.094)		(0.094)
Sole proprietorship (0/1)		-0.303***		-0.310***		-0.301***		-0.311***		-0.293***
		(0.085)		(0.086)		(0.085)		(0.089)		(0.084)
Financing as an obstacle (0/1)		-0.037		-0.039		-0.032		-0.033		-0.033
		(0.088)		(0.088)		(0.088)		(0.088)		(0.088)
Technical assistance (0/1)		0.129		0.133		0.137		0.126		0.129
		(0.096)		(0.096)		(0.096)		(0.096)		(0.096)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Probit regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

component of women in management or ownership might have had a disadvantage in accessing technical assistance programs. Results did not show any strong pattern, other than for firms with a predominant share of women in management. These firms were less likely to take advantage of technical assistance programs than comparable firms, even when we took into account differences along observable firm characteristics (Table 6.11).

Is There a Gender Gap in Firm Productivity?

The empirical analysis presented so far shows that the gender composition of a firm is significantly associated with some key firm characteristics— notably size and access to financing—that are likely to affect firm performance (Van Biesebroeck, 2005a; Grazzi, Pietrobelli, and Szirmai, 2015; Beck and

TABLE 6.8. Gender Composition and Firm Propensity to Innovate

Dependent variable: innovation	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	0.056 (0.127)	0.126 (0.130)								
Dominant owner			-0.089 (0.102)	-0.066 (0.105)						
Dominant manager					-0.007 (0.094)	0.029 (0.096)				
Female owner							0.118 (0.075)	0.145* (0.081)		
Female top manager									-0.178* (0.092)	-0.127 (0.094)
Size		0.096*** (0.037)		0.093** (0.037)		0.095*** (0.037)		0.100*** (0.037)		0.090** (0.037)
Age		0.114* (0.059)		0.113* (0.059)		0.114* (0.059)		0.116** (0.059)		0.110* (0.059)
Export (0/1)		0.414*** (0.089)		0.419*** (0.090)		0.415*** (0.090)		0.418*** (0.090)		0.417*** (0.089)
Foreign ownership (0/1)		0.018 (0.106)		0.017 (0.106)		0.020 (0.106)		0.022 (0.106)		0.011 (0.107)
Sole proprietorship (0/1)		0.030 (0.083)		0.044 (0.082)		0.039 (0.082)		0.091 (0.087)		0.038 (0.082)
Financing as an obstacle (0/1)		-0.049 (0.087)		-0.039 (0.087)		-0.042 (0.087)		-0.043 (0.087)		-0.042 (0.087)
Technical assistance (0/1)		0.048 (0.097)		0.045 (0.097)		0.048 (0.098)		0.052 (0.097)		0.045 (0.097)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Probit regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

Demirgüç-Kunt, 2006). To investigate the presence of a gender gap in firm performance, we estimated a simple model for the drivers of firm productivity, augmented with the different proposed measures of gender composition within the firm. We measured firm productivity by: (1) value added per worker, (2) sales per worker, and (3) total factor productivity (TFP), measured as the residual of the production function. In particular, following Saliola and Seker (2011), who

calculated TFP in 80 developing countries using micro data from the WBES, we estimated a log-linearized Cobb-Douglas function with the value of sales (question K1B in the PROTEqIN survey) as output, and total labor costs (question K2B), the replacement cost of machinery and equipment (question K7), and total intermediate costs (K1B) as inputs.

For each of the five gender variables, we estimated the model controlling only for sector and

TABLE 6.9. Gender Composition and Firm Demand for Bank Credit

Dependent variable: credit application	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.293*** (0.107)	-0.267** (0.108)								
Dominant owner			-0.259*** (0.085)	-0.237*** (0.086)						
Dominant manager					-0.144* (0.080)	-0.124 (0.081)				
Female owner							-0.104 (0.064)	-0.137** (0.068)		
Female top manager									-0.066 (0.076)	-0.039 (0.077)
Size		0.065** (0.031)		0.064** (0.031)		0.067** (0.031)		0.064** (0.031)		0.068** (0.031)
Age		0.022 (0.050)		0.026 (0.050)		0.019 (0.050)		0.024 (0.050)		0.022 (0.050)
Export (0/1)		-0.087 (0.081)		-0.078 (0.081)		-0.085 (0.081)		-0.092 (0.081)		-0.089 (0.081)
Innovation (0/1)		0.030 (0.083)		0.021 (0.083)		0.025 (0.083)		0.031 (0.083)		0.024 (0.083)
Foreign ownership (0/1)		-0.079 (0.088)		-0.085 (0.088)		-0.082 (0.087)		-0.078 (0.088)		-0.080 (0.088)
Sole proprietorship (0/1)		-0.030 (0.069)		-0.030 (0.068)		-0.045 (0.068)		-0.098 (0.072)		-0.049 (0.068)
Technical assistance (0/1)		0.020 (0.082)		0.017 (0.082)		0.018 (0.082)		0.018 (0.082)		0.023 (0.082)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Probit regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

country fixed effects. Then, we added a standard set of control variables to examine whether the gender gap in firm productivity (if found) could be explained by firm characteristics. In particular, following what was done in the previous section, we included firm size and age measured by the logarithm of the number of employees and the number of years since inception, respectively. We also included a set of

dummy variables to identify firms that (1) exported some of their production, (2) introduced a new or significantly improved product or service as a proxy for firm propensity to innovate, (3) were foreign owned, (4) were sole proprietorships, (5) considered access to financing a major or very severe obstacle to business activities, and (6) benefited from any technical assistance program.

TABLE 6.10. Gender Composition and Financing as an Obstacle to Firm Activity

Dependent variable: financing as an obstacle	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	0.298*** (0.107)	0.266** (0.109)								
Dominant owner			0.154* (0.088)	0.128 (0.090)						
Dominant manager					-0.042 (0.085)	-0.074 (0.087)				
Female owner							-0.008 (0.069)	0.010 (0.075)		
Female top manager									0.038 (0.080)	-0.013 (0.082)
Size		-0.093*** (0.033)		-0.095*** (0.033)		-0.100*** (0.034)		-0.098*** (0.034)		-0.099*** (0.034)
Age		-0.092* (0.054)		-0.093* (0.054)		-0.094* (0.054)		-0.091* (0.054)		-0.092* (0.054)
Export (0/1)		-0.056 (0.090)		-0.060 (0.090)		-0.048 (0.089)		-0.051 (0.089)		-0.050 (0.089)
Innovation (0/1)		-0.058 (0.091)		-0.051 (0.091)		-0.053 (0.091)		-0.054 (0.091)		-0.054 (0.091)
Foreign ownership (0/1)		-0.004 (0.097)		0.001 (0.097)		-0.005 (0.097)		-0.002 (0.097)		-0.002 (0.097)
Sole proprietorship (0/1)		-0.030 (0.074)		-0.016 (0.074)		-0.002 (0.073)		-0.001 (0.079)		-0.004 (0.073)
Technical assistance (0/1)		0.067 (0.088)		0.066 (0.088)		0.059 (0.088)		0.063 (0.088)		0.063 (0.088)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Probit regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

Tables 6.12–6.14 consistently show that there was a gender gap in productivity irrespective of the measure of gender composition, with the only exception being the dummy *female owner*, which identifies firms with at least one woman among the owners, and *women-led business*, which was not significant when firm performance was measured by TFP, even though the coefficient was negative.

However, in line with evidence for advanced economies (Wolfers, 2006) and Latin America (Abrahams et al, 2016; Flabbi et al., 2014), once we controlled for firm characteristics other than industries and countries, we found that the productivity gap vanished for *women-led businesses* and for firms that were predominantly owned by women (*dominant owner*). The

TABLE 6.11. Gender Composition and Technical Assistance

Dependent variable: technical assistance	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.087 (0.126)	-0.110 (0.128)								
Dominant owner			-0.119 (0.100)	-0.139 (0.102)						
Dominant manager					-0.210** (0.097)	-0.213** (0.098)				
Female owner							-0.146* (0.075)	-0.122 (0.079)		
Female top manager									-0.075 (0.088)	-0.060 (0.089)
Size		0.058 (0.038)		0.056 (0.038)		0.056 (0.038)		0.056 (0.038)		0.057 (0.038)
Age		0.045 (0.058)		0.046 (0.058)		0.038 (0.058)		0.045 (0.057)		0.043 (0.057)
Export (0/1)		0.147 (0.093)		0.152 (0.093)		0.152 (0.093)		0.142 (0.093)		0.146 (0.093)
Innovation (0/1)		0.063 (0.095)		0.059 (0.095)		0.063 (0.095)		0.068 (0.095)		0.060 (0.095)
Foreign ownership (0/1)		-0.150 (0.106)		-0.152 (0.106)		-0.155 (0.106)		-0.149 (0.106)		-0.153 (0.106)
Sole proprietorship (0/1)		0.132 (0.081)		0.136* (0.081)		0.131 (0.080)		0.082 (0.084)		0.124 (0.080)
Financing as an obstacle (0/1)		0.077 (0.083)		0.078 (0.083)		0.070 (0.083)		0.073 (0.083)		0.073 (0.083)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Probit regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

performance gap survived only when considering the gender composition of firm management (*dominant manager* and *female top manager*).

The results for the other firm-level variables were in line with the evidence on the drivers of firm performance in the literature, supporting the fact that the overall model was well specified. In particular, firms that are larger, older, and

export oriented are more productive, and access to financing is strongly associated with firm performance (Van Biesebroeck, 2005b).

Blinder-Oaxaca Decomposition

We carried out the counterfactual decomposition of the difference in the average performance across

TABLE 6.12. Gender Composition and Firm Productivity (*value added per worker*)

Dependent variable: value added per worker	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.152**	-0.072								
	(0.075)	(0.074)								
Dominant owner			-0.123**	-0.073						
			(0.061)	(0.060)						
Dominant manager					-0.163***	-0.124**				
					(0.057)	(0.057)				
Female owner							0.027	-0.018		
							(0.049)	(0.053)		
Female top manager									-0.241***	-0.186***
									(0.058)	(0.059)
Size		0.077***		0.076***		0.075***		0.077***		0.069***
		(0.024)		(0.025)		(0.024)		(0.025)		(0.025)
Age		0.087**		0.088**		0.083**		0.087**		0.083**
		(0.039)		(0.039)		(0.039)		(0.039)		(0.038)
Export (0/1)		0.132**		0.135**		0.134**		0.130**		0.132**
		(0.062)		(0.062)		(0.062)		(0.062)		(0.062)
Innovation (0/1)		0.037		0.035		0.037		0.037		0.031
		(0.059)		(0.059)		(0.058)		(0.059)		(0.058)
Foreign ownership (0/1)		0.058		0.057		0.055		0.058		0.050
		(0.073)		(0.073)		(0.073)		(0.073)		(0.073)
Sole proprietorship (0/1)		-0.083*		-0.083*		-0.085*		-0.096*		-0.087*
		(0.051)		(0.050)		(0.051)		(0.056)		(0.050)
Financing as an obstacle (0/1)		-0.159***		-0.160***		-0.165***		-0.162***		-0.163***
		(0.051)		(0.051)		(0.051)		(0.051)		(0.051)
Technical assistance (0/1)		0.039		0.038		0.034		0.039		0.038
		(0.061)		(0.060)		(0.061)		(0.060)		(0.060)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
R-squared	0.664	0.676	0.664	0.676	0.665	0.676	0.664	0.676	0.667	0.677
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Linear regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

women-managed firms and other firms using the standard Blinder (1973) and Oaxaca (1973) approach. This technique is widely used in the literature on wage gaps across gender or race to decompose the gap

in firm performance into two components: (1) the explained part due to differences in characteristics across groups, and (2) the residual or the unexplained part, which can be interpreted as a measure of

TABLE 6.13. Gender Composition and Firm Productivity (sales per worker)

Dependent variable: sales per worker	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.151**	-0.064								
	(0.070)	(0.070)								
Dominant owner			-0.131**	-0.076						
			(0.058)	(0.057)						
Dominant manager					-0.154***	-0.112**				
					(0.054)	(0.053)				
Female owner							0.033	-0.018		
							(0.047)	(0.050)		
Female top manager									-0.222***	-0.162***
									(0.054)	(0.055)
Size		0.070***		0.069***		0.069***		0.071***		0.064***
		(0.023)		(0.023)		(0.023)		(0.023)		(0.024)
Age		0.096***		0.098***		0.093**		0.097***		0.093**
		(0.037)		(0.037)		(0.037)		(0.037)		(0.037)
Export (0/1)		0.148**		0.151**		0.150**		0.146**		0.148**
		(0.060)		(0.060)		(0.060)		(0.060)		(0.059)
Innovation (0/1)		0.015		0.013		0.015		0.015		0.010
		(0.057)		(0.057)		(0.056)		(0.056)		(0.056)
Foreign ownership (0/1)		0.114*		0.112*		0.112*		0.114*		0.107
		(0.067)		(0.067)		(0.067)		(0.067)		(0.067)
Sole proprietorship (0/1)		-0.097**		-0.096**		-0.099**		-0.109**		-0.101**
		(0.048)		(0.047)		(0.047)		(0.052)		(0.047)
Financing as an obstacle (0/1)		-0.181***		-0.181***		-0.186***		-0.183***		-0.184***
		(0.049)		(0.049)		(0.049)		(0.049)		(0.049)
Technical assistance (0/1)		0.075		0.073		0.070		0.075		0.074
		(0.058)		(0.058)		(0.059)		(0.058)		(0.058)
Observations	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821	1,821
R-squared	0.693	0.706	0.693	0.706	0.693	0.707	0.692	0.706	0.695	0.708
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Linear regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

discrimination, even though it could include the effect of other unobserved heterogeneity (omitted variables that can differ across the two groups of firms and can contribute to predicting performance).

The results of the two-fold decomposition for the two gender variables showed a gender gap after controlling for firm characteristics, as shown in Table 6.15. Measuring performance by

TABLE 6.14. Gender Composition and Firm Productivity (total factor productivity)

Dependent variable: TFP	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women-led	-0.022	-0.010								
	(0.023)	(0.023)								
Dominant owner			-0.032*	-0.024						
			(0.019)	(0.019)						
Dominant manager					-0.041**	-0.036**				
					(0.017)	(0.018)				
Female owner							0.012	0.008		
							(0.016)	(0.016)		
Female top manager									-0.060***	-0.053***
									(0.017)	(0.017)
Size		0.012		0.012		0.012		0.013		0.010
		(0.008)		(0.008)		(0.008)		(0.008)		(0.008)
Age		0.001		0.001		-0.000		0.001		-0.000
		(0.012)		(0.012)		(0.012)		(0.012)		(0.012)
Export (0/1)		-0.002		-0.001		-0.001		-0.002		-0.002
		(0.019)		(0.019)		(0.019)		(0.019)		(0.018)
Innovation (0/1)		0.003		0.002		0.003		0.002		0.001
		(0.022)		(0.022)		(0.022)		(0.022)		(0.022)
Foreign ownership (0/1)		0.031		0.030		0.030		0.031		0.029
		(0.023)		(0.023)		(0.023)		(0.023)		(0.023)
Sole proprietorship (0/1)		-0.007		-0.006		-0.006		-0.005		-0.007
		(0.016)		(0.016)		(0.016)		(0.017)		(0.016)
Financing as an obstacle (0/1)		-0.032*		-0.032*		-0.033*		-0.033*		-0.033*
		(0.017)		(0.017)		(0.017)		(0.017)		(0.017)
Technical assistance (0/1)		0.005		0.004		0.003		0.005		0.004
		(0.020)		(0.020)		(0.020)		(0.020)		(0.020)
Observations	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770
R-squared	0.001	0.009	0.002	0.010	0.004	0.011	0.001	0.009	0.007	0.014
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors based on PROTEqIN data.

Notes: Linear regression with robust standard errors. *Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

sales or value added per worker provided almost an identical picture. The performance of *dominant manager* firms was lower than that of other firms, and two-thirds of this gap was due to unobserved factors; the explained part of the gap was not statistically different from zero.

Dissimilarly, in firms with a *female top manager*, the explained part of the gap accounted for almost half of the total gap and both components were statistically greater than zero. In particular, it is worth noting that size, age, and, to a lesser extent, access to financing were

TABLE 6.15. Gender Composition and Firm Productivity: Blinder–Oaxaca Decomposition

	$E [Y_{\text{FEMALE}=0}]$ (1)	$E [Y_{\text{FEMALE}=1}]$ (2)	Difference (3)	Explained (4)	Unexplained (5)	% Unexplained (6)	Observations
Value added per worker							
Dominant manager	11.640	11.462	0.178 (0.080)	0.057 (0.503)	0.120 (0.033)	67.8	1,821
Female top manager	11.686	11.325	0.360 (0.000)	0.176 (0.030)	0.184 (0.001)	51.2	1,821
Sales per worker							
Dominant manager	12.354	12.189	0.165 (0.106)	0.058 (0.510)	0.107 (0.042)	65.0	1,821
Female top manager	12.391	12.080	0.311 (0.001)	0.150 (0.068)	0.161 (0.003)	51.8	1,821
TFP							
Dominant manager	0.011	-0.028	0.039 (0.021)	0.003 (0.543)	0.036 (0.038)	93.3	1,770
Female top manager	0.015	-0.040	0.055 (0.001)	0.002 (0.689)	0.053 (0.002)	96.3	1,770

Source: Authors based on PROTEqIN data.

Notes: The table reports the two-fold Blinder–Oaxaca decomposition of the gender gap for alternative measures of firm productivity and for two measures of gender composition in the firm management (by row). Results are obtained using the Stata routine *Oaxaca* (Jann, 2008). Column 5 (Explained) reports the part of the difference in means (Column 4) that was due to group differences in the predictors (the ‘endowments effect’), while Column 6 reports the Unexplained part. Numbers in parentheses for Columns 4–6 report the p-values of the test when the expected values and the difference were equal to zero. See Jann (2008) for additional details.

the three observable variables that significantly contributed to explaining part of the difference in firm productivity across the gender composition of management. This was consistent with the previous evidence about the existence of a gender gap in firm size and age.

Finally, considering TFP, almost all of the difference between firms with a dominant manager or a female top manager and the others was unexplained, but this result was likely due to the fact that the TFP was estimated as a residual from an auxiliary regression.

Conclusions

Female participation in management and ownership of Caribbean firms is relatively high compared to international standards. This study found that women-led businesses differed from

other Caribbean firms in several characteristics. In particular, a larger presence of women in management and ownership of a firm was often associated with smaller size, younger age, domestic ownership, and limited access to financing. Some of these stylized facts differed depending on the measure of gender composition within the firm, supporting the finding that having a different gender balance in ownership or in management was associated with different firm characteristics.

The main analysis focused on a gender gap in firm performance and showed that firms with female management (*dominant manager* and *female top manager*) were in fact less productive than comparable firms, even after controlling for country and sector fixed effects and for a large set of firm-level variables that drive productivity. This result, however, was not valid for *women-led* businesses and for firms that were predominantly

owned by women (*dominant owner*), which were as productive as comparable firms.

The evidence discussed in this chapter provides some novel insights on the role of gender in firm performance in the Caribbean. The results can help design effective policy interventions aimed at narrowing the gender gap in firm productivity. In particular, we found that differences

in firm size, age, and access to financing across gender explained a significant part of the productivity gap of firms with women among the key managers. Thus, policies aimed at promoting firm growth and access to financing for businesses managed by women are likely to be the most effective in narrowing the gender productivity gap.

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