



Gender and Firm Performance in Africa: Does the Business Environment Play a Moderating Role?

Ibrahim Mike Okumu, Sunday Nathan and Edward Bbaale

October 2023 / No.799

Abstract

This paper examines the moderating role of the business environment in the relationship between the gender of the top manager and firm performance (measured as sales per employee), and whether female-managed firms perform better the higher the proportion of female employees in the firm. The paper uses World Bank Enterprise Survey data of 14,561 firms from 29 African countries collected between 2010 and 2016. The descriptive analysis reveals significant variation in the performance and experience of business environment constraints that disadvantage female-managed firms. Controlling for potential endogeneity

and country fixed effects, we show that female-managed firms are associated with lower performance compared to male-managed firms. Electricity outages, informal competition, and corruption account for the performance gap between female and male-managed firms. However, we show that *large* female-managed firms perform better than male-managed large firms. Overall, the results imply that strengthening Africa's business environment is central to closing the performance gap between male and female managers.

Introduction

There is increasing interest in the role that the gender of top managers (hereinafter referred to as gender of manager) play in firm performance. Although there have been interventions to increase the proportion of women in top management positions, recent evidence shows that gender parity has not been achieved, with the proportion of women reaching top positions remaining low in most countries (Amin and Islam, 2014). Furthermore, the literature on the relationship between the gender of managers and firm performance is inconclusive.

Some evidence suggests that male-managed firms are associated with increased firm performance (Khan and Vieito, 2013; Concetta et al., 2014), but a more common finding is that female managers are associated with lower firm performance (Brush et al., 2006; Amin, 2011; Bardasi et al., 2011; Hallward-Driemeier, 2013; Gui-Diby et al., 2017; Okumu and Mawejje, 2020; Islam et al., 2020). Other studies find no significant difference, including Du Rietz and Henrekson (2000) for Swedish firms, Depalo and Lotti (2014) for Italy and Niringiye (2014) for Ugandan firms.

Using World Bank Enterprise Survey (ES) data this paper contributes to the empirical literature by investigating the relationship between the gender of a manager and firm performance as measured by sales per employee for 14,561 firms from 29 African countries. Specifically, this study seeks to understand whether the nature of the business environment proxied by electricity outages (Asongu and Odhiambo, 2019; Islam et al., 2020; Okumu and Mawejje, 2020), corruption (Dal Bo and Rossi, 2007; Bbaale and Okumu, 2018; Okumu and Mawejje, 2020), credit access (Islam et al., 2020; Okumu and Mawejje, 2020) and informal competition (Okumu and Mawejje, 2020) moderates the relationship between the gender of the manager and firm-level performance. In doing so, this paper is most closely related to Flabbi et al. (2019) who attempt to understand the moderating effect of the fraction of female workers employed in the relationship between gender of the manager and performance. The unique contribution of this paper is the consideration of the business environment as a moderating factor in the relationship between gender of the manager and firm performance.

The specific focus of this paper is to identify any moderating effect of the business environment on the relationship between gender of the manager and firm performance. The available literature suggests that the inverse relationship between female managers and firm performance is attributed to a high level of risk aversion among women that influences their investment decisions, and that women may self-select employment in sectors with lower performance (Baliamoune-Lutz and Lutz, 2017). However, no study has attempted to analyze whether there is a difference in the way different types of managers (by gender) react to constraints in the business environment, which could in turn induce differences in performance. This study seeks to fill this gap by exploring the moderating role of business environment in the relationship between gender and firm performance.

Female-managed firms are defined as firms where the top manager is a woman while male-managed firms are firms where the top manager is a man. An exploration of the data indicates that there is a significant performance gap between male and female-managed firms, especially in manufacturing firms. Furthermore, there is a significant wedge between female-managed and male-managed firms in terms of their experience with the business environment. Losses due to electricity outages and informal competition disproportionately hurt female-managed firms in comparison to male-managed firms, irrespective of the sector, while bribe payments more significantly affect male-managed firms in comparison to female-managed firms, irrespective of the sector. With regards to firm size, while informal competition decreases with firm size across both male and female-managed firms, female-managed firms experience more informal competition compared to male-managed medium-sized and large firms. Furthermore, across all sizes of firms, male-managed firms have a higher likelihood of paying a higher proportion of their revenue in the form of bribes in comparison to female-managed firms. With respect to losses due to electricity outages, generally female-managed firms experience higher losses due to electricity outages in comparison to male-managed firms, especially in medium-sized firms. In addition, female-managed firms experience higher losses due to electricity outages in larger firms.

Owing to the existence of a gender performance gap and variations in experiences of business environment constraints between female and male-managed firms, we further undertook an econometric analysis to explore whether the gender of the manager significantly affects firm performance and whether the business environment moderates the relationship between gender and firm performance. The results indicate that female-managed firms are associated with lower performance compared to male-managed firms. Furthermore, a weak business environment, characterized by electricity outages, informal competition, and corruption, exacerbates the performance gap between male and female-managed firms.

Data source

This study uses the World Bank Enterprise Surveys (WBES) data set for manufacturing and services firms. The WBES are nationally representative surveys of formal (registered) firms with at least five employees and cover manufacturing and services firms, excluding extractive industries and the agriculture sector. They use standardized survey instruments and a uniform sampling methodology to minimize measurement error and to yield data that are comparable across countries. To ensure a representative sample, the surveys are implemented using stratified random sampling. Stratification is conducted using three criteria: sector of activity, firm size, and geographical location. Stratification by sector of activity is done using a two-digit ISIC (revision 3.1), which categorizes firms into manufacturing, retail, and other services. Stratification by firm size divides the population of firms into three strata: small firms (5–19 employees), medium firms (20–99 employees) and large firms (100 or more employees). In the survey, geographical distribution is defined to reflect the distribution of the non-agricultural economic activity of the country, which in essence leads to the inclusion of main urban centres as non-agricultural activities concentrated in urban centres.

Conclusion

The study looked at whether the gender performance gap is mediated by business environment indicators. We investigated whether a higher proportion of female workers in the workforce would induce higher performance in female-managed firms than male-managed firms. First, we re-estimated the relationship between gender, business environment and firm performance. Our preliminary analysis highlighted significant variations in performance and the experience of business environment constraints that disfavoured female-managed firms. The baseline regression also confirms the female underperformance hypothesis from other studies such as Okumu and Maweje (2020). However, our findings indicate that the female underperformance hypothesis is conditional on the firm size, holding only to the extent that firms are small and medium sized. Our results show that female-managed large firms outperform male-managed large firms. We also show that small firms and those in the services sector can leverage higher shares of female workers, while an increase in the share of female workers undermines performance among medium-sized and large firms.

Regarding business environment, we find evidence in support of that corruption undermines firm performance that is the ‘sanding effect’. In line with Bbaale and Okumu (2018), our results suggest bribe payments undermine firm performance, especially among small and medium-sized firms, and those engaged in the manufacturing sector. However, after controlling for endogeneity in the services sector, we find evidence in support of performance being positively related with corruption in the service sector.

Informal competition is found to undermine performance among all categories of firms with the biggest impact among small firms and those engaged in the services sector. However, our results disagree with Ali and Najaman (2015), whose findings indicate that the higher the intensity of informal competition, the higher the firm's performance. Unfortunately, because of data limitations we are not able to establish the relationship between the degree of informal competition and performance. In line with Bbaale and Okumu (2018), access to credit is found to enhance firm performance across all categories of firms. Finally, power outages are found to undermine firm performance especially among small and medium-sized firms, regardless of the sector of operation.

We find mixed results regarding the moderating role of the share of female employees in the workforce. Contrary to Flabbi et al. (2019), our findings suggest that male managers are more able to ameliorate the negative effect of an increase in the share of women in the workforce on firm performance and can even leverage higher shares of women in the workforce among small firms and services sector firms compared to female managers. This suggests that having more female workers in the workforce does not mitigate the gender performance gap. Regarding the business environment, our results indicate that the presence of a poor business environment in the form of electricity outages, informal competition, credit constraints and corruption exacerbate the performance gap between male and female-managed firms in favour of male-managed firms.

The business environment-induced female-male managed firm performance gap is firm size specific especially among small and medium-sized firms and is sector specific. For example, power outages widen the gender performance gap mainly among small, medium-sized and manufacturing firms; access to credit mitigates the gender performance gap mainly among small and services sector firms; informal competition exacerbates the gender performance gap mainly in the services sector; and informal payments exacerbate the gender performance gap among manufacturing firms. Notably, the business environment plays a limited role in moderating the gender performance gap among large firms. This is in line with our finding that female managers in large firms are as good as their male counterparts in the same categories of firm, thus limiting the gender performance gap.

Based on our analysis, we conclude that the apparent performance gap between male and female managers is partly perpetuated by a weak business environment to which male managers can adjust better compared to female managers. Such performance differences may therefore have implications for the choice of managers in African firms with a preference for male as opposed to female managers. Therefore, attaining gender parity in firm management in Africa is contingent upon closing the gender firm performance gap. Our results indicate that this performance gap is perpetuated by a less-than-desirable business environment as opposed to managerial attributes of male and female managers. Consequently, closing the gender performance gap is partly contingent upon improving Africa's business environment.

References

- Albanesi, S., C. Olivetti, and M. Prados. 2015. Gender and Dynamic Agency: Theory and Evidence on the Compensation of Top Executives. CESR-Schaeffer Working Paper No. 2015-002. At <https://ssrn.com/abstract=2577580> or <http://dx.doi.org/10.2139/ssrn.2577580>
- Ali, N., and B. Najaman. 2015. "Informal competition and productivity in sub-Saharan Africa". Paper presented at the 64th Annual Meeting of the French Economic Association (AFSE), Rennes, France, 21–24 June. At <https://doi.org/10.1017/CBO9781107415324.004>
- Amin, M. 2010. "Gender and informality". Enterprise Surveys Note Series No. 16. World Bank Group, Washington, D.C. At <http://documents.worldbank.org/curated/en/765841468156872426/Gender-and-informality>
- Amin, M. 2011. "Labor productivity, firm-size and gender: The case of informal firms in Argentina and Peru". Enterprise Note Series No. 22. World Bank Group, Washington, D.C. At <https://www.enterprisesurveys.org/~media/GIAWB/EnterpriseSurveys/Documents/EnterpriseNotes/Gender-22.pdf>
- Amin, M., and A.M. Islam. 2014. "Presence of women in top managerial positions". Enterprise Note Series No. 29. World Bank Group, Washington, D.C. At <https://www.enterprisesurveys.org/~media/GIAWB/EnterpriseSurveys/Documents/EnterpriseNotes/Presence-of-Women-in-Top-Manual-Positions.pdf>
- Asongu S. A. and N.M. Odhiambo. (2019) Challenges of doing business in Africa: A systematic review. *Journal of African Business*, 20 (2) 259–268
- Bardasi, E., S. Sabarwal and K. Terrell. 2011. "How do female entrepreneurs perform? Evidence from three developing regions". *Small Business Economics*, 37: 417–41.
- Bbaale, E. and I.M. Okumu. 2018. "Corruption and firm-level productivity: Greasing or sanding effect?" *World Journal of Entrepreneurship, Management and Sustainable Development*, 14: 222–41.
- Brush, C., N. Carter, E.J. Gatewood, P. Greene, and M. Hart. 2006. *Growth Oriented Women Entrepreneurs and Their Businesses (New Horizons in Entrepreneurship)*. Cheltenham, UK and Northampton, Mass.: Edward Elgar.
- Dal Bo, E. and M.A.Rossi. 2007. Corruption and inefficiency: Theory and evidence from electric utilities. *Journal of Public Economics*, 91(5-6), 939–962.
- Depalo, D. and F. Lotti. 2014. "Sex and the firm: Questioning the gender-based performance differential". *Business and Management Research*, 3: 34–50.
- Du Rietz, A. and M. Henrekson. 2000. "Testing the female underperformance hypothesis". *Small Business Economics*, 14: 1–10.
- Flabbi, L., M. Mario, M. Andrea, and S. Fabiano. 2019. "Do female executives make a difference? The impact of female leadership on gender gaps and firm performance". *The Economic Journal*, 129: 2390–423.
- Gui-Diby, S.L., S.S. Pasali and D. Rodriguez-Wong. 2017. "What's gender got to do with firm productivity? Evidence from firm level data in Asia". *Macroeconomic Policy and Financing for Development Division Working Paper Series WP/17/01*. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok, Thailand. At https://www.unescap.org/sites/default/files/publications/MPFD_WP-17-01_Gender%20and%20Performance.pdf

- Hallward-Driemeier, M. 2013. "Enterprising women: Expanding economic opportunities in Africa". Africa Development Forum, Washington, D.C., Agence Française de Développement and The World Bank. At <https://openknowledge.worldbank.org/handle/10986/13785>
- Hanousek, J., and A. Kochanova. 2016. "Bribery environments and firm performance: Evidence from CEE countries". *European Journal of Political Economy*, 43: 14–28.
- Islam A., I. Gaddis, A.P. Lopez, and M. Amin. 2020. "The labor productivity gap between female and male-managed firms in the formal private sector". *Feminist Economics*, 26: 228–58.
- Khan, W.A. and J.P. Vieito. 2013. "CEO gender and firm performance". *Journal of Economics and Business*, 67: 55–66.
- Lam, K.C.K., P.B. McGuinness and J.P. Vieito. 2013. "CEO gender, executive compensation and firm performance in Chinese listed enterprises". *Pacific-Basin Finance Journal*, 21: 1136–59.
- Marlow, S., and M. McAdam. 2013. "Gender and entrepreneurship: Advancing debate and challenging myths; exploring the mystery of the under-performing female entrepreneur". *International Journal of Entrepreneurial Behavior & Research*, 19: 114–24.
- Mawejje, J. and I.M. Okumu. 2018. "Wages and labour productivity in African manufacturing". *African Development Review*, 30: 386–98.
- Niringiye, A. 2014. "Gender, innovation and labour productivity in Ugandan manufacturing firms". *Journal of Entrepreneurship and Innovation Management*, 3: 21–32.
- Okumu, I.M., and J. Mawejje. 2020. "Skills and labour productivity in African manufacturing firms". *Development Policy Review*, 38: 1–24. At <https://doi.org/10.1111/dpr.12431>
- Rijkers, B. and R. Costa. 2012. "Gender and rural non-farm entrepreneurship". *World Development*, 40: 2411–26.
- Wolfers, J. 2006. "Diagnosing discrimination: Stock returns and CEO gender". *Journal of the European Economic Association*, 4: 531–41.
- World Bank (2019). World Development Indicators online database.
- World Bank Enterprise Surveys, <http://www.enterprisesurveys.org>



Mission

To strengthen local capacity for conducting independent, rigorous inquiry into the problems facing the management of economies in sub-Saharan Africa.

The mission rests on two basic premises: that development is more likely to occur where there is sustained sound management of the economy, and that such management is more likely to happen where there is an active, well-informed group of locally based professional economists to conduct policy-relevant research.

Bringing Rigour and Evidence to Economic Policy Making in Africa

- Improve quality.
- Ensure Sustainability.
- Expand influence.

www.aercafrica.org

Learn More



www.facebook.com/aercafrica



www.instagram.com/aercafrica_official/



twitter.com/aercafrica



www.linkedin.com/school/aercafrica/

Contact Us

African Economic Research Consortium
Consortium pour la Recherche Economique en Afrique
Middle East Bank Towers,
3rd Floor, Jakaya Kikwete Road
Nairobi 00200, Kenya
Tel: +254 (0) 20 273 4150
communications@ercafrica.org