

Empowering Women for Economic Growth:
A Measurement of Social and Demographic Impacts on Afghan
Women in Business

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Executive Summary

Non-governmental organizations working in conflict-prone, resource-deprived developing countries face a very unique set of challenges. Like with other non-profits, program dollars and other resources must be allocated carefully and thoughtfully so the maximum output is achieved with the inputs allotted. Unlike other non-profits, however, the political, social, and economic environment is constantly changing in developing countries like Afghanistan. Basic human needs are not being met, leaving the path to NGO program success fraught with seemingly impossible challenges. This is the case for Peace Through Business, a training and development program serving women entrepreneurs in Kabul, Afghanistan.

Peace Through Business seeks to play a key role in the transformation of Afghanistan into a nation with the capacity for peace by supporting its economy. Specifically, the program targets women entrepreneurs to help diversify and strengthen the small business sector of the Afghan economy.

In an effort to support the Peace Through Business program, this research project evaluates 2016 data from The Asia Foundation's *Survey of the Afghan People* to gain an understanding of Afghan women who work in the market in exchange for payment, versus those who work solely in the home without pay. Specifically, the data analysis measures what characteristics impact the Afghan woman's propensity to work in the market, then looks at what characteristics impact the propensity of the same woman to own her own business. With an understanding of these characteristics, PTB can adjust its program's sails to support women who are interested in owning their own business and to target women who are shown by this analysis as having a greater propensity to own their own businesses.

The findings presented are significant. Through a multivariate regression analysis using the Ordinary Least Squares method, I uncover several traits that correlate, and in some cases appear to positively influence, the Afghan woman's likelihood to work and be a business owner. A few variables were found to have a significant impact on both of the dependent variables, which are: (1) work in the market and (2) own business. The significant variables include: region, access to a mobile phone for Internet usage, and motorcycle ownership as a means for transportation. The extent to which these variables impact a woman's likelihood to work or own her own business is useful but *not* to be highlighted as the main point. Instead, it is most valuable for the Peace Through Business program, as well as organizations doing similar work in Afghanistan, to identify the characteristics that are found to be significant, recognize the direction of the impact, and understand the data as opportunities to influence the intended outcome for the program's participants.

Introduction

For over a decade, the Peace Through Business Program (PTB) has sought to provide women entrepreneurs in Afghanistan the tools, resources, and training needed to grow and develop business opportunities. Founded by the Institute for Economic Empowerment of Women (IEEW), PTB trains and mentors Afghan women through three main program components: *In-Country Education*, *Leadership Development*, and *Pay It Forward*.

The research here aims to support PTB by first providing an understanding of what factors influence the Afghan woman's propensity to generate income (henceforth referred to as "work¹ in the market") then looks at what, if any, social and demographic characteristics influence the likelihood of the Afghan woman to own her own business. The findings presented here can be utilized by the Peace Through Business Program to improve programming to better fit the current circumstances of these women, increase success rates, and to mold the program's recruiting efforts to target women who already have the tendency to work in the market and potentially be self-employed.

The IEEW's Peace Through Business Program

The IEEW empowers "women to grow their businesses, pursue greater entrepreneurial ventures, and become more active public policy advocates" (IEEW.org). At the national level, the IEEW intends to help grow GDP per capita to improve overall stability, thereby promoting peace through its flagship program, *Peace Through Business*. Working in Afghanistan and Rwanda, the program seeks to "educate women who have

¹ "Work" in this context is defined by "generates income." In the Asia Foundation's survey, respondents are asked whether they "generate income." Respondents that answered "yes" are included in this research.

suffered oppression and marginalization and whose homelands have been devastated by war, genocide, and poverty” (IEEW.org).

The Kabul, Afghanistan, component of the Peace Through Business (PTB) program seeks to support Afghan women entrepreneurs through three main program components:

In-Country Education:

Classes focus on developing entrepreneurs, improving technical skills, and creating leaders with an emphasis in Accounting, Marketing, and Operations. By the end of the 10-week course, students will have developed a business plan that will be used to guide their business and apply for business loans.

Leadership Development:

Components include: Business Boot Camp with high-level discussions on business, leadership, and public policy topics; Mentorship through living and working with an American business owner; International Women’s Economic Summit that brings together business and community leaders to discuss changing the country’s culture; Graduation to recognize participants as newly trained “Change Agents.”

Pay It Forward:

Graduates of the Leadership Development component are asked to lead and mentor others in their home community by becoming more civically engaged and advocating for greater support for women in business.

Institute for Economic Empowerment of Women
<http://www.ieew.org/peace-through-business>

Background and Relevant Facts

In the war-torn nation of Afghanistan, decades of civil unrest make the possibility of a prosperous economy seem a lofty dream. However, organizations like the International Labour Organization and the McKinsey Institute report that with greater participation by women and gender equality in the market workforce, women can have a

dramatic impact on a nation's economy (International Labour Office 2016; Woetzel et al. 2015; Langowitz & Minniti 2007). In particular, research suggests that the Middle East and North Africa are regions where, because female participation in the economy has been lacking for so long, efforts to change social norms will have the greatest impact (Woetzel et al. 2015).

Entrepreneurship is widely accepted as a force that expands economies. This growth driver is not only a key factor in developed nations, but also an even more critical element in developing countries (Robson et al. 2009). Female entrepreneurs boost economic growth by creating new businesses and diversifying the economy, yet much of this untapped group's talent and potential remain unused, suppressed by various social norms (Baughn et al. 2006, Verheul et al. 2006). While the population of women business owners is steadily increasing around the world, the overall number is dramatically lower than men. Afghanistan is ranked as having one of the widest gaps in gender equality indicators associated with the workforce, including factors like legal restrictions on women's work outside the home, lesser pay for equal work in the market, parental leave policies and childcare support. Of the 180 countries analyzed, the World Bank identified Afghanistan as the third worst with 22 legal gender differences, behind Saudi Arabia with 29 and Jordan with 25 (World Bank Group 2015).

In addition to the impact on the economy, the ILO reports that greater equality between men and women in a society will also improve the overall welfare of that community (2016). In 2015, women made up half of the world's working-age population but generated only 37% of GDP, and with regards to unpaid work, 75% of the global unpaid work at that time was done by women (Woetzel et al. 2015). As such, providing

economic development resources to this key group potentially has a greater impact than providing the same resources to any other group.

To bridge this gender gap, Woetzel et al. (2015) recommend creating economic opportunity for women through interventions that target women in business, especially entrepreneurs, to remove barriers so they can assume positions in leadership in the public and private sector. Additionally, researchers highlight the importance of education and training specifically for women and girls to increase their capacity for economic success in business.

Unique Challenges Faced by Women Entrepreneurs in Afghanistan

Members of the targeted population for this study embody several characteristics that attract various forms discrimination, each associated with its own hurdles and challenges. Decades of oppression have shaped the law in Afghanistan to limit women's rights and influence public opinion of what is considered socially acceptable for a woman, resulting in a 149th ranking out of 152 countries in terms of gender inequality (World Health Organization 2016). Moreover, research shows that women, regardless of location or circumstances, face an economic disadvantage compared to men when it comes to entrepreneurial success. The women studied here also live in a developing country, where access to healthcare is extremely limited and constant conflict keeps nearly 28% of them in fear for the safety of their families (The Asia Foundation 2016). Knowledge of these obstacles is helpful in understanding what is required for Afghan women to succeed in business.

Social and Economic Challenges

DeTienne and Chandler (2007) summarize the main competitive advantage for entrepreneurs as the ability to identify opportunities. Generally speaking, men have greater “human capital stock” because they have more experience in market work, particularly in management, and therefore have the advantage when it comes to maneuvering to capitalize on opportunities in business (DeTienne & Chandler 2007). As this idea relates to Afghanistan, the fundamental obstacle goes beyond the ability to *identify* opportunities, to the ability to *access* them.

Even though laws established in 1923 were meant to give equal rights to women, a history of violent transfers of power and foreign invasions have led to extreme oppression and violence against women. Beginning with the Soviet occupation in 1979, followed by coups, civil conflicts, and the Taliban rule, rights for women in Afghanistan deteriorated (Amnesty International 2013). The Taliban imposed Islamic Sharia law as they interpreted it, which meant women were banned from going to school, studying, working, being outside the home without a male chaperone, showing their skin in public, accessing healthcare delivered by men, and speaking publicly or being involved in politics (Amnesty International 2013). By the end of 2001, the Taliban were officially removed from power but still remained in control in parts of the country. While some progress has been made reinstating rights for women, in 2011 the country was named ‘the most dangerous’ country to be a woman by an international poll of experts on gender equality (BBC News 2011). Sadly, violence and discrimination against women and girls continues today. The world experienced a startling reminder of the work left to be done in 2012 when Malala Yousafzai, a 15-year-old girl, survived a gunshot to her head by the

Taliban for exercising her right to education.

While there is little research on the unique hurdles or opportunities entrepreneurs encounter in societies experiencing such severe, constant conflict, (Bruck et al. 2013) there are a handful of researchers who have studied women entrepreneurs in Afghanistan. Holmen and Tar Min (2011) identified the main challenges Afghan women business owners face as access to funding during the start-up phase and into operations, the lack of a network of business contacts during operation, and a general lack of security. More specifically, compared to Afghan men, Afghan women have less access to markets, face social constraints that restrict the ability to move about freely, and operate in a society where a large portion of the population does not accept women in business (Holmen & Tar Min 2011). Similarly, Myatt (2015) surveyed women who identified their greatest challenges as mobility restrictions, lack of access to business networks and funding, and lack of safety. A comparable study conducted in Lebanon, a country whose traditionally conservative culture is comparable to that of Afghanistan, surveyed women entrepreneurs with regards to the three greatest barriers to success. Not far from Myatt's (2015) and Holmen and Tar Min's (2011) findings, one of the three most often listed barriers faced by women was access to capital (Jamali 2009).

Healthcare Accessibility Challenges

According to the World Health Organization, Afghanistan's health issues are among the worst in the world with key indicators at three to five times higher than in neighboring countries (World Health Organization 2017). Still, the numbers are moving in a more positive direction. Maternal mortality has slightly declined in recent years and is at 396 per 100,000 live births per year, along with the children under five mortality

rate, currently at 91 deaths per 1,000 live births per year (World Health Organization 2016). Cholera, meningitis, measles and malaria are just a few of the epidemics that crop up frequently, and data analyzed by the World Health Organization suggest widespread severe malnutrition (World Health Organization 2017).

Myatt's (2015) research suggests that the severe health challenges faced by women in Afghanistan are a significant hindrance to the female business owner's success. Using data from the United Nations and the Asian Development Bank, Myatt (2015) demonstrates that especially in rural areas, where many Afghan entrepreneurs operate, the resource-consuming task of maintaining one's physical health detracts from the ability to successfully start and run a business. Additionally, war and oppression have left psychological damages among women throughout the nation, a difficult condition to remedy with limited healthcare available (Myatt 2015).

The obstacles faced are monumental in nature, but breaking them down is not necessarily required for women in Afghanistan to increase representation as business owners or entrepreneurs, or even increase engagement in the market workforce. In fact, there are subtle, less tangible factors that help determine success in this context.

Determinants of Success for Women Entrepreneurs in Afghanistan

Although the field of research surrounding the factors that support success in female entrepreneurs in Afghanistan is narrow, existing publications come to a very similar set of conclusions. In light of the substantial challenges mentioned in the literature, one might expect access to financial capital to be at the top of this list. However, while access to capital is inevitably mentioned by most researchers as an

obstacle, it is not listed as a defined solution. Myatt (2015) best summarized with the conclusion that access to funding alone does not enable success. In fact, it seems there are a number of less tangible factors that must be at play, according to the field's researchers.

The World Bank Empowerment and Poverty Reduction Sourcebook (2002) evaluates findings of various researchers that addresses some of these less tangible factors in the context of economic growth in developing countries, specifically as the factors relate to job creation through entrepreneurial growth and increased participation in the market workforce. According to the World Bank (2002) literature, the following four concepts must exist in a developing country to foster economic growth:

1. Access to information

“Critical areas include information about rules and rights to basic government services, about state and private sector performance, and about financial services, markets, and prices.”

2. Inclusion and participation [in local economy, politics, social sphere]

“To sustain inclusion and informed participation usually requires changing the rules so as to create space for people to debate issues and participate directly or indirectly in local and national priority setting, budget formation, and delivery of basic services.”

3. Accountability [to protect women's rights]

Applied to the context of women business owners, the women must have the ability to hold their male peers and business-related product providers accountable. Systems must be in place to ensure exchanges will be fair and equitable.

4. Local organizational capacity [to advocate for women in business]

“Local organizational capacity refers to the ability of people to work together, organize themselves, and mobilize resources to solve problems of common interest.”

(World Bank 2002, p. 23-26)

Building Markets, a non-profit organization that advises policy-making and supports NGOs in developing countries, attempts to reduce poverty and promote peace by supporting local entrepreneurs in conflict-prone countries. The organization surveyed Afghan women business owners, women employees and key informants from around the country for the 2013 *Afghan Women’s Economic Participation* report. The report collected both quantitative and qualitative data to provide a better understanding of the impact women have on the Afghan economy, and to document the experiences of these women and their needs as they see them. The key findings include the following eight factors required for success: (1) Increased capacity and skills development (2) Encouragement and support, including family (3) Safe and appropriate workplaces (3) Safe and appropriate workplaces (4) Access to markets (5) Access to employment opportunities (6) Better transportation options (7) Rights awareness and (8) Reduced corruption. Several of these factors overlap with the findings of other researchers, as is displayed in Table 1 (Butler & McGuinness 2013).

Myatt’s research is similar to that of Building Markets, collecting data from 20 interviews with Afghan women entrepreneurs. Myatt’s work analyzes the women’s perspective on business development and sustainability to provide readers a holistic view of the female entrepreneurial landscape in Afghanistan. Myatt’s findings conclude that

the women need professional business guidance, access to quality business supplies, public and familial support to improve reputation and credibility, business and leadership training, and peer networking opportunities. In addition to support from the community, these women need support from one another in the form of cooperative lending associations to overcome inheritance laws favoring men and land ownership requirements tied to traditional lending. Interestingly, Myatt’s work also found that women’s business success was linked to their ability to overlook ethnic divides related to business partnerships and hiring, as well as their commitment to improving their local communities.

Table 1 offers a visual representation of the alignment of themes among researchers with regards to factors that influence success.

Table 1. Factors that Influence Success of Afghan Female Entrepreneurs by Researchers in Common

Common Theme	Butler & McGuiness 2013	Myatt 2015	Simmons-Benton et al. 2012	Holmen & Tar Min 2011	World Bank 2002
Greater networking capabilities and membership in business associations	x	x	x	x	x
Support system, especially family, close friends and neighbors	x	x			
Access to opportunities, ability to interact freely in public	x		x		x
Positive development of public image of women	x	x	x	x	
Access to training, information and technology	x	x			x

The Broader View

It's clear that Afghanistan is a country where there are extreme political, cultural, social and overall resource constraints that limit women entrepreneurs. Understandably, the Peace Through Business program does not have the capacity to remove the obstacles women face in Afghanistan over any short period of time, nor will any other aid agency given the severity of the situation. However, with an understanding of factors that influence a woman's likelihood to own her own businesses, it is conceivable that the Peace Through Business program can reinforce the factors for success and help close the gap to shift the broader cultural landscape.

Research Design

Most of the existing literature examines obstacles and determinants of success either qualitatively or quantitatively with surveys of only Afghan women entrepreneurs. Using broader data collected by The Asia Foundation, I attempt to determine whether there are basic demographic characteristics that correlate with Afghan women's propensity to (1) work in the market and (2) own her own business. The Asia Foundation polls its respondents from 16 ethnic groups across all 34 provinces and reaches "insecure and physically challenging environments." Some survey respondents who live in inaccessible areas were "intercepted," or asked to answer survey questions while they traveled in an area where the administrators worked (Asia Foundation 2016).

With The Asia Foundation's *Survey of the Afghan People*, I conduct a quantitative study to examine to what extent certain social and demographic factors affect the propensity of an Afghan woman to own her own business. Because conflict and varying

degrees of foreign involvement cause the country to be in a constant state of change, I selected only the most recent data from 2016. The units of analysis are the 5,812 females in Afghanistan surveyed that year, “from 16 ethnic groups across all 34 provinces including insecure and physically challenging environments” (The Asia Foundation 2016). The survey provides data related to demographics, “overall morale” characteristics, and basic human needs-met criteria (The Asia Foundation 2016).

The dependent variables in the two research questions of this study are (1) works in the market and (2) owning one’s own business. Table 2 provides additional detail for each dependent variable.

Table 2. Research Questions and Corresponding Dependent Variable

Question	Dependent Variable
<p><i>Question 1</i> What impact, if any, do the explanatory variables have on the propensity of a woman in Afghanistan to work in the market?</p>	<p>Survey participant answers "yes" to engage in an activity to generate money. Dummy variable used, 0 or 1.</p>
<p><i>Question 2</i> What impact, if any, do the explanatory variables have on the propensity of a woman in Afghanistan to own her own business?</p>	<p>If "yes" to engage in an activity to generate money, then "yes" to: farm own land for money, self-employed professional, OR small business owner. Dummy variable used, 0 or 1.</p>

Based on the common themes of previous literature presented in Table 1, I carefully reviewed the hundreds of survey questions available to select 18 as the independent variables in this study. Each is related to one or more of the categories listed in Table 1, including:

- basic social and demographic characteristics
- what the literature describes as an obstacle

Age (and) Number of Children

The available literature does not address whether age or children influence a woman's propensity to work in the market or own her own business in this context, so I do not attempt to hypothesize the outcome. Still, these basic demographic variables are life-altering and are therefore considered in the models.

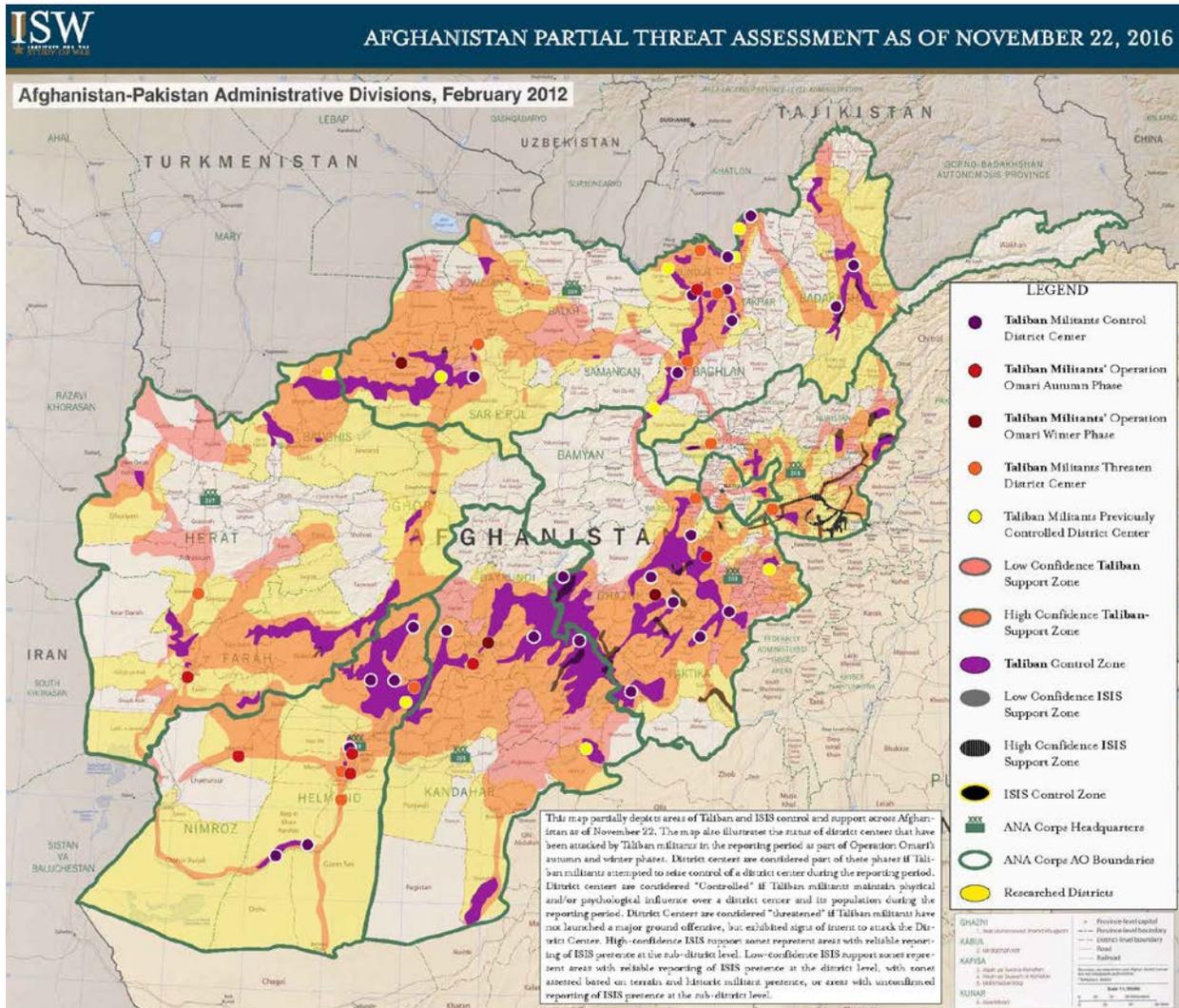
Marital Status and Household Size

Given what the literature discusses regarding the need for familial support and the inherent power Afghan culture gives to men relative to women, marital status and household size are both expected to have a positive impact on the dependent variables.

Education

The literature addresses the need for educational opportunities and business-related training for girls and women. Accordingly, I hypothesize education to have a positive effect on the dependent variables.

Figure 2. Taliban presence in Afghanistan.



Institute for the Study of War 2016

Number of Household Members Who Own a Mobile with Access to the Internet (and Personally Own and Use a Mobile

Because access to information and technology is a critical component of success, I include two variables addressing access to the internet and a mobile phone. The Pew Research Center (2015) reports that cell phone use as a means to connect for social and economic gains is on the rise around the world, including in developing nations. Still,

particularly in developing nations, young people are most likely to own and use mobile phones (Pew Research Center 2015). USAID (2013) found relatively high numbers of mobile phone ownership in Afghanistan with 80% of women having access to a mobile phone through a household member or personal ownership. Additionally, USAID reported that in Afghanistan, access to a mobile device improves women's ability to obtain healthcare, social, and economic opportunities (USAID 2013). Survey participants were asked how many household members own a mobile phone with access to the internet, and whether they personally own and use a mobile phone.

Family Health

The literature identifies women's health issues in Afghanistan as a substantial obstacle. Although it is not discussed as a determinant of success, I have included the family health component as a variable here to test whether better or worse family health has an impact on the dependent variables. Survey participants were asked whether their family's health was better, the same, or worse compared to two years ago. "Worse" was used as the baseline variable in each regression model. I hypothesize that if family health is better, women are more likely to work in the market and/or own a business.

Bike, Motorcycle, Car Ownership

Overall mobility and transportation is an underlying theme related to each obstacle mentioned in the literature. I have included the three available variables related to transportation here to determine whether they have a significant impact on women in the market workforce or women business owners. The women in the survey were asked how

many bikes, motorcycles, and cars (each in a separate question) belong to her household. I hypothesize a positive relationship between each of these and the dependent variables.

Television (TV), Refrigerator, Washing Machine Ownership

While these basic household items are not specifically mentioned anywhere in the literature, I have included them as they have potential to add capacity, either through information (television), time (washing machine), or some other resource such as saving money (refrigerator). Each is a relatively inexpensive household item and if found to be significant, may be provided by the Peace Through Business program to participants to support in their success. Survey participants were asked how many of each of these items her household owns. The expected effect on the dependent variable is unknown.

Sewing Machine, Livestock Ownership

Sewing machines and livestock can both be used to create or generate items for sale, and therefore to generate income. Similar to the previously described household item variables, if one or both of these are found to have a significant impact on the dependent variables, then the Peace Through Business Program may find it advantageous to provide one or more of these relatively inexpensive items to participants as a means of support. The expected effect on the dependent variables is unknown.

Visit Department of Women's Affairs (DoWA) in Last 12 Months

The provincial DoWAs were established in 2002 by the national-level Ministry of Women's Affairs. These offices function as a resource for women and an attempt to drive

cultural changes in favor of women's rights (USAID 2016). As a resource that facilitates networking and provides accountability for equality, visiting DoWA is expected to have a positive influence on the dependent variables.

Summary Statistics

To provide a baseline understanding of the survey participants, I report the summary information in Table 4. For each variable, the table displays the number of observations, the mean and standard deviation, as well as the minimum and maximum. For most of the variables, the survey response was either a yes or no, or agree or disagree. For these response variables, I use a dummy categorical variable that is represented by 0 and 1, as can be seen in the minimum and maximum column. For age, education, children, household size, bike, motorcycle, car, refrigerator, washing machine, sewing machine, livestock, and number of household members with mobiles accessing the internet, I use ordinal variables that represent the actual number of years, children, and so on.

Relative to the dependent variables identified for this research, the summary statistics show that almost 11% of the women surveyed work in the market, and about 3.5% are self-employed. About 58% agree that women should lead in business (as a CEO) and 75% believe women should represent on the Community Development Council.

Table 3.1 Explanatory/Independent Variables

Variable	Measurement	Hypothesized Relationship
Demographics		
region	Central/Hazarjat, Central/Kabul, North East, Eastern, North West, South East, South West, Western	unknown
age	18-81 (age of participant)	unknown
children	Number of Children, 0-13	negative
refrigerator	number of refrigerators owned, 0-6	positive
washing machine	number of washing machines owned, 0-6	positive
sewing machine	number of sewing machines owned, 0-7	positive
livestock	number of animals owned, 0-250	positive
Networking Opportunities Positive Development of Women's Public Image		
visit Dept. of Women's Affairs in last 12 months	yes or no, dummy variable or 0 or 1	positive
Support System		
marital status	Married (dummy variable 0 or 1)	positive
household size	1-45 (number of people living in the survey participant's home)	unknown
family health	Better, Worse, or the Same compared to two years ago (each is a dummy variable, 0 or 1)	"Better" is used in the model and expected to have positive correlation

(Table 3.1 cont)

Access to Opportunities/Ability to Move About Freely in Public		
bike	number of bicycles owned, 0-6	positive
motorcycle	number of motorcycles owned, 0-6	positive
car	number of cars owned, 0-10	positive
Access to Training, Information and Technology		
education	0-16 (in years of formal schooling)	positive
television	number of televisions owned, 0-8	positive
Number in household with mobile phones with internet	number of people, 0-10	positive
personal mobile use	yes or no, dummy variable or 0 or 1.	positive

Research Method

For each of the research questions, I use a linear regression model with Stata. This method was chosen to identify whether correlation exists at a significant level between the independent and dependent variables, as well as to determine the strength of the relationships. I use the .05 p-value standard to measure statistical significance.

Table 4. Summary Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
Works in Market	5,812	0.1081	0.3105	0	1
Owns Business	5,812	0.0345	0.1826	0	1
Eastern Region	5,812	0.0867	0.2814	0	1
North East Region	5,812	0.2332	0.4229	0	1
Kabul Central Region	5,812	0.1843	0.3878	0	1
North West Region	5,812	0.1678	0.3737	0	1
South West Region	5,812	0.1217	0.3270	0	1
Central Hazarjat Region	5,812	0.0458	0.2092	0	1
West Region	5,812	0.0937	0.2915	0	1
South East Region	5,812	0.0663	0.2490	0	1
Age	5,812	33.4	11.7300	18	81
Marital Status - Married	5,812	0.7859	0.4101	0	1
Years of Education	5,843	2.44	4.3100	0	16
Children	4,923	3.73	2.2300	0	13
Household Size	5,812	9.52	3.7600	1	40
Family Health Better	5,812	0.1915	0.3935	0	1
Family Health Same	5,812	0.5138	0.4998	0	1
Family Health Worse	5,812	0.2872	0.4525	0	1
Number of Bikes in Household	5,812	0.5405	0.6381	0	6
Number of Motorcycles in Household	5,812	0.4583	0.6043	0	4
Number of Cars in Household	5,812	0.2159	0.4492	0	4
Number of Televisions in Household	5,812	0.717	0.6699	0	6
Number of Refrigerators in Household	5,812	0.2283	0.4594	0	4
Number of Washing Machines in Household	5,812	0.2804	0.5030	0	5
Number of Sewing Machines in Household	5,812	0.8305	0.6689	0	6
Number of Livestock Owned	5,812	3.99	8.4700	0	250
No. of Household members with mobile that has internet Personally use mobile	4,688	0.4298	0.8258	0	7
Personally use mobile	5,812	0.3708	0.4830	0	1
Visited the Dept of Women's Affairs in last 12 months	5,812	0.0278	0.1645	0	1

Research Questions and Findings

Question 1

What impact, if any, do the explanatory variables have on the propensity of a woman in Afghanistan to work in the market?

Statistical model:

$$\begin{aligned} \text{Works in the Market} = & \beta_0 + \beta_1 * (\text{region}) + \beta_2 * (\text{education}) + \beta_3 * (\text{household size}) \\ & + \beta_4 * (\text{children}) + \beta_5 * (\text{television}) + \beta_6 * (\text{sewing machine}) + \beta_7 * (\text{livestock}) + \\ & \beta_8 * (\text{family health}) + \beta_9 * (\text{bike}) + \beta_{10} * (\text{motorcycle}) + \beta_{11} * (\text{car}) + \beta_{12} * (\text{visit} \\ & \text{Dept of Womens Affairs}) + \beta_{13} * (\text{number in household with internet access} \\ & \text{mobile phones}) + \beta_{14} * (\text{personal mobile phone use}) \end{aligned}$$

Findings

As can be seen in Table 5, the analysis found that age, family health, number of children, or visiting the DoWA did not seem to correlate with a woman's propensity to work in the market; nor did owning livestock, a car, a TV, or a refrigerator.

Surprisingly, both motorcycle and bicycle were statistically significant with a p-value $< .05$, but with opposite effects. Because these variables are in the same category of transportation, it would seem the relationships are correlated, but not necessarily causal. In fact, it may be that households where the woman works in the market have a higher income, so they are more likely to own a motorcycle than to own a bicycle. Households where the woman does not work for wages have less income, therefore cannot afford a motorcycle and are perhaps more likely to have a bicycle. Similarly, there is a positive correlation between owning one or more sewing machines and working in the market, and a negative correlation between owning one or more washing machines and working in the market. The positive correlation associated with the sewing machine may suggest that this piece of equipment enables a woman to participate in market work (to sell goods

she sews, for example), or it may imply that women who have a higher income as a result of working in the market are able to buy sewing machines. In either case, it is worth organizations like Peace Through Business taking note.

The statistically significant negative correlation between owning a washing machine and working in the market is somewhat puzzling as it indicates that for every washing machine a woman owns, she is 2.4% less likely to work in the market; it would seem that a woman who works outside the home would have *less* time to do her laundry without a washing machine. However, it is conceivable that having laundry done by a third party is common for households with higher incomes, and therefore if a woman is working, she is more likely to be able to afford this service. Without further knowledge on the relative customs, it is difficult to speculate.

Given the literature and what we know about access to education, it is not surprising to see number of years of education is statistically significant with a positive coefficient. The coefficient suggests that for every one additional year of education, a woman is 2.5% more likely to participate in market work. Similarly, based on the research, it is not surprising that the number of household members with mobile phones that access the Internet and the personal use of mobile phones are both positively correlated with a woman's propensity to work in the market.

Most surprising and difficult to explain is the positive correlation associated with the North West region, relative to the constant Western region. Table 5 suggests that a woman is 4% more likely to work in the market if she lives in the North West region compared to if she lived in the Western region. According to Figures 1 and 2, this region is saturated with Taliban forces, and according to the Asia Foundation's 2016 report, fear

for safety in that area actually increased last year. Because of the Taliban's traditional and strict rules related to women working outside the home, it is very surprising that the data shows a positive correlation with market work in that area.

Lastly, it is worth mentioning that two variables were found to be significant at the $<.10$ level. Marital status is significant with a p-value of .055 and a negative coefficient, contrary to my expectation. In fact, the model found that married women are 4.6% less likely to work in the market. Given what we know from the literature, it is possible that rather than supporting their wives in business, husbands hold traditional views and do not want their wives to work. Or, it may simply be a result of being married and therefore having higher income and a decreased need for the woman to work. Similarly, household size had a p-value of .061 with a negative coefficient, also contrary to my expectation. The model output indicates that for every one additional person in the household, a woman is .28% *less* likely to work. Rather than providing support, these additional household members may require additional care and attention, taking away from the woman's ability to work for income.

Table 5. Question 1 OLS Regression Statistics

Works in Market	Coefficient	Std. Err.	t-statistic	p-value
Eastern Region	-0.01688	0.0198	-0.85	0.396
North East Region	0.003	0.0186	0.17	0.868
Kabul Central Region	-0.0183	0.01896	-0.97	0.334
North West Region	0.0444	0.0199	2.23	0.026
South West Region	0.0213	0.0209	1.02	0.309
Central Hazarjat Region	0.0109	0.0288	0.38	0.705
South East Region	0.0098	0.0214	0.46	0.645
Age	0.0004	0.0004	0.91	0.363
Family Health Better	0.0027	0.0145	0.19	0.850
Family Health Same	-0.0006	0.0109	-0.06	0.950
Household Size	-0.0028	0.0015	-1.88	0.061
Marital Status Married	-0.04656	0.0242	-1.92	0.055
Bike	-0.0241	0.0074	-3.24	0.001
Motorcycle	0.0241	0.0089	2.7	0.007
Car	0.0075	0.0117	0.64	0.523
TV	-0.0024	0.0073	-0.33	0.740
Refrigerator	-0.0148	0.0142	-1.04	0.299
Washing Machine	-0.0204	0.0077	3.78	0.000
Sewing Machine	0.0294	0.0077	3.78	0.000
Livestock	0.0000	0.0006	0.1	0.920
No. of Household members with mobile that has internet	0.0142	0.007	2.01	0.044
Visited the Dept of Women's Affairs in last 12 months	0.0562	0.0365	1.54	0.123
Years of Education	0.0257	0.0018	13.95	0.000
Children	0.0016	0.0022	0.73	0.467
Personally use mobile	0.0417	0.0102	4.07	0.000

Question 2

What impact, if any, do the explanatory variables have on the propensity of a woman in Afghanistan to own her own business?

Statistical model:

$$\begin{aligned} \text{Own Business} = & \beta_0 + \beta_1 * (\text{region}) + \beta_2 * (\text{education}) + \beta_3 * (\text{household size}) \\ & + \beta_4 * (\text{children}) + \beta_5 * (\text{television}) + \beta_6 * (\text{sewing machine}) + \beta_7 * (\text{livestock}) + \\ & \beta_8 * (\text{family health}) + \beta_9 * (\text{bike}) + \beta_{10} * (\text{motorcycle}) + \beta_{11} * (\text{car}) + \beta_{12} * (\text{visit} \\ & \text{Dept of Womens Affairs}) + \beta_{13} * (\text{number in household with internet access} \\ & \text{mobile phones}) + \beta_{14} * (\text{personal mobile phone use}) \end{aligned}$$

Findings

As can be seen in Table 6, only a few variables were found to be statistically significant in having an effect on a woman's propensity to own her own business. In fact, education unexpectedly was included in the variables that did *not* show a significant correlation. This may be because women who identified their self-employment activity as farming are included and this activity can be learned in an informal setting.

Variables that were found to be statistically significant with a p-value <.05 were the Central Hazarjat region (relative to the Western region), household size, and visiting the DoWA. Several of these findings are very much in line with the literature. Looking back at the Figure 1 map, the Central Hazarjat region appears to be free from Taliban occupancy, thereby creating an environment that is presumably safer for women to engage in business. Finally, women who visited the DoWA in the last 12 months are nearly 6.4% more likely to own their own business compared to those who did not. This is a clear indication of the value of business networks and access to resources.

It is worth noting motorcycles owned with a p-value of .051 and personal mobile usage with a p-value of .057, as these significant values are under .10, and these variables

were found to be significant in question one. With a positive coefficient, the significance of motorcycle ownership in both question one and two suggests transportation as a helpful resource for female business owners.

Based on the findings for question one, it is surprising that sewing machine, washing machine, age, marital status, and household members with mobile phones that access the Internet are *not* found to be statistically significant. Although, when considering the variables that *were* found to be statistically significant, they are very much in line with the success factors identified in the literature. Specifically, support groups, business networking opportunities, and improving women's reputation relate to DoWA visits, access to information and technology relates to personal mobile phone use, and motorcycles owned relates to the ability to move about and interact freely in public.

Each of these findings would prove useful for the Peace Through Business program as it attempts to provide critical support to female business owners.

Table 6. Question 2 OLS Regression Statistics

Owns Business	Coefficient	Std. Err.	t-statistic	p-value
Eastern Region	0.0023	0.0115	0.20	0.838
North East Region	0.0166	0.0109	1.52	0.129
Kabul Central Region	0.0036	0.0107	0.35	0.730
North West Region	0.0093	0.0116	0.81	0.420
South West Region	0.0144	0.0129	1.12	0.263
Central Hazarjat Region	0.0568	0.0227	2.50	0.012
South East Region	-0.0129	0.0100	-1.29	0.198
Age	-0.0003	0.0002	-1.31	0.191
Family Health Better	0.0011	0.0089	0.13	0.894
Family Health Same	-0.0046	0.0067	-0.69	0.489
Household Size	-0.0017	0.0007	-2.19	0.028
Marital Status Married	-0.0240	0.0157	-1.53	0.127
Bike	-0.0042	0.0042	-0.99	0.320
Motorcycle	0.0119	0.0061	1.96	0.051
Car	0.0012	0.0073	0.17	0.863
TV	-0.0073	0.0043	-1.70	0.089
Refrigerator	0.0098	0.0097	1.01	0.314
Washing Machine	-0.0041	0.0073	-0.56	0.575
Sewing Machine	0.0059	0.0047	1.23	0.218
Livestock	0.0005	0.0004	1.25	0.210
No. of Household members with mobile that has internet	0.0015	0.0033	0.47	0.641
Visited the Dept of Women's Affairs in last 12 months	0.0638	0.029	2.20	0.028
Years of Education	-0.0067	0.0007	-0.91	0.363
Children	0.0002	0.0014	0.19	0.846
Personally use mobile	0.0131	0.00693	1.90	0.057

Limitations

The dataset provided by The Asia Foundation is incredibly robust with hundreds of questions that serve to collect very meaningful information. Due to time and resource constraints, I have only used a very small subset of the data available, and have only used the female responses. Many additional questions can be asked and answered using this dataset. In particular for the Peace Through Business program, evaluating the male

responses in this dataset would provide for a better understanding of what factors make the men believe women should not be CEO of a company, for example. Knowing this information would help Peace Through Business better advocate for women, and better train women to be advocates themselves.

Many of the questions were asked at the household level and therefore may not be directly applicable to the woman answering the question. For example, another member of the family may own a sewing machine, which in fact may not be at all related to the survey respondent's ability to generate income. It is important that the Peace Through Business program understand the survey data and questions asked as part of reviewing this research. The 2016 survey questions can be found on the Asia Foundation's website at <http://asiafoundation.org/publication/afghanistan-2016-survey-afghan-people>.

Recommendations and Conclusion

Based on the research presented in this paper, I recommend the Peace Through Business program consider the following as they seek to improve programming:

1. Provide mobile phones.

Findings in both questions indicated that personal use of a mobile phone was positively correlated with market work and with business ownership. This relatively inexpensive tool can give women in business the ability to communicate more efficiently, network and organize, and gain access to information. USAID (2016) reports rapid growth of mobile phone companies in Afghanistan; perhaps a public-private partnership that helps increase ownership of mobile phones among women would be an ideal solution.

2. Address transportation.

Because findings for both questions indicated a significant, positive correlation between the motorcycle ownership and women working, it would be beneficial to further explore the relationship and determine whether access to transportation would increase a woman's likelihood of success in business ownership. Given that the car and bicycle were both measured, it is reasonable to conclude the motorcycle itself is important, perhaps because the gas mileage is more affordable, the roads are easier to navigate with a motorcycle, or because they offer the best value in terms of price and quality. Perhaps a partnership with a local motorcycle dealer to provide the women participants with discounts would be useful and beneficial.

3. Consider focusing on young women in the Central Hazarjat region.

With such a strong significance and coefficient, it would seem wise for the Peace Through Business program to focus recruitment efforts in the Central Hazarjat region, and on young women. While age was not found to be a factor in business ownership, the data did suggest that younger women are more likely to work in the market. Additionally, the Central Hazarjat region appears to offer an environment conducive to women owning businesses. It may also prove beneficial for the Peace Through Business program to conduct a community map of the region to identify the factors that support women the most in that area, then try to apply that knowledge in other regions throughout Afghanistan.

4. Promote awareness of the DoWA.

Question two presented visiting the DoWA in the last 12 months as a statistically significant factor, making women nearly 6.5% more likely to own a business if they had.

As the research suggested, women desperately need community support, access to opportunities, improved reputation, and networking capabilities. The DoWA was created to be the hub of these activities, and a partnership with this organization would seem critical. Additionally, promoting awareness of these offices would also likely prove greatly beneficial.

5. Explore the data provided the Asia Foundation’s 2016 Study of the Afghan People.

This research paper is incredibly narrow when compared to the vast amount of valuable data included in The Asia Foundation’s 2016 survey results. It would be beneficial for the Peace Through Business program to carefully review the survey for questions that would provide insight to the ideal program candidate for recruitment, or for other factors that provide insight into what characteristics seem to correlate with pro-women’s rights viewpoints. As one of the program’s main components is to train the women to “Pay It Forward” through advocacy, gaining an understanding of both men and women’s attitudes towards women in leadership, and their associated characteristics, would be useful in determining a plan for gaining more support throughout the nation.

In conclusion, the Peace Through Business program can use the research presented here to target recruitment efforts and consider enhancing its program to provide support in key areas such as transportation, access to mobile technology, and better understanding of support networks.

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