



PAKISTAN

Strategy Support Program



WORKING PAPER No. 038 | February 2016

Determinants of Entrepreneurial Behaviour in FATA Pakistan

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Posted: 2/17/2016

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This working paper is an output from a CGP grant awarded in February 2013.

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ACKNOWLEDGMENTS

I extend profound gratitude to the staff of IFPRI especially Professor David Orden and Andrew Comstock for their academic support. Similarly I am indebted to USAID, as the research project has been undertaken with the financial support from the award of the research Competitive Grants Program (CGP), Pakistan Strategy Support Program (PSSP). I am also thankful to the anonymous reviewer who provided insightful comments. In addition, many thanks go to the graduate and undergraduate assistants who provided enormous support and showed immense courage to go into the troublesome land of the tribal areas of Pakistan. I am also not oblivious of the intellectual support extended by my Co-PI, Dr. Muhammad Junaid. We are both thankful for the interview team's overall support and enthusiasm.

ABSTRACT

This research investigates determinants of entrepreneurial behaviour in one of the most impoverished areas of Pakistan, the Federally Administered Tribal Areas (FATA). Unlike the developed world, the scenario in emerging economies is quite different, where entrepreneurs have to rely primarily on socio-cultural factors that facilitate them to pursue entrepreneurship as a means to earn livelihoods. However, little predictive empirical work has investigated enterprising behaviour in the tribal areas of Pakistan. This study examines the relative strength of selected entrepreneurial determinant in the Pashtun tribal culture. Persistent wars, economic downturn, and strong cultural adherence have turned the Pashtun tribesmen into necessity entrepreneurs. Based on primary data from 462 respondents, entrepreneurial behaviour measured by self-reported views toward risk-taking and innovativeness are related to economic, institutional, and cultural constructs using logistic regression models. Different sets of predictors emerged for risk-taking and innovativeness. We find some, but limited support for hypothesized determinants of entrepreneurial behavior. This study informs academics as to how entrepreneurial behaviour of Pashtuns can be enhanced, setting up hypotheses and results for future research exploration, and can guide policy to stimulate underlying factors that will promote entrepreneurship in FATA.

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INTRODUCTION

In the last 35 years or so, the tribal areas of Pakistan have, due to their strategic importance, emerged an important territory for national and international peace. The area known as FATA (Federally Administered Tribal Areas) also serves as the gateway to Afghanistan and Central Asia. However, despite its importance, insufficient attention has been paid to the region by academics and policy-makers, and the territories have not been brought into the mainstream of the national economy. Many consider the tribal areas to have been left behind by at least a hundred years development (Rehman, 2014). FATA is located along Pakistan's north-western Himalaya zone and south-western Suleiman Mountains. Geographically, it consists of seven semi-autonomous agencies or administrative units: Mohmand, Khyber, Bajaur, Malakand, Waziristan, Kurram, and Orakzai. Malakand is legally considered to be part of PATA (Provincially Administered Tribal Areas) and not FATA, but since PATA regulation was declared null and void by the Supreme Court of Pakistan in 1994, scholars loosely label Malakand as part of FATA ("Consensus on Pata," 2015). Besides, it shares strong socio-economic ties with the rest of agencies. In addition to tribal agencies, FATA also includes 'frontier regions' that adjoin the districts of Peshawar, Kohat, Bannu, Dera Ismail Khan, Lakki Marwat, and Tank. Historically, FATA was separated from the Pashtun tribes of Afghanistan through the Durand line by the British colonial rulers of India in 1893.

Persistent civil unrest in neighboring Afghanistan since the Soviet invasion in 1979 has exacerbated the already fragile economy of FATA (US Dept of State, 2013). The fall of the Taliban in Afghanistan and subsequent fighting has resulted in increased extremist tendencies in the Pakistan-Afghan region. If peace could be maintained, the tribal region can offer better trade routes to several niche markets such as the Central Asian states. It is in the interest of Pakistan and the international community to help the region sustain long-term peace. Past attempts at economic programs have failed to sustain peace in the region, perhaps because of little involvement and mass distrust by the local stakeholders, the tribesmen. New attempts to promote an entrepreneurial culture that integrates this area into the national economy have become essential. Indigenous entrepreneurship is sometimes presented as a panacea for eliminating poverty and maintaining peace (Bruton, Ketchen Jr, & Ireland, 2013). However, whatever the actual level of its potential impact, little has been done to examine the factors determining entrepreneurial behaviour in the Pashtun culture as perceived from the viewpoints of local entrepreneurs.

This study examines the intricacies involved in individuals' entrepreneurial behaviour and its underlying psychographic and broader determinants. Through surveys conducted with 462 small-scale entrepreneurs in FATA by survey teams from the seven agencies, demographic characteristics were collected, along with self-assessments of the attitudes of the respondents toward risk-taking and innovativeness and their perception of the potential economic, institutional, and cultural determinants of their entrepreneurial behavior. These descriptive responses are of interest in their own right. In addition, risk-taking and innovativeness self-perceptions are regressed against the views regarding behavioural determinants reflecting economic circumstances (economic conditions and provision of security and support), institutions (business financing, level of administrative burdens, and protection of legal rights), and culture (individualism, power distance, masculinity, and religious orientation). The objective is to assess factors that facilitate a long-term indigenous solution to invigorate entrepreneurial behaviour and could contribute to a sustainable economy, peace, and tranquility in FATA Pakistan. The study rests on the notion that socio-economic policies imposed without examining entrepreneurial behaviour will not reap lasting results. It fills a gap in previous empirical and evidence-based research for a region where policies have largely been devised based on unjustified prose produced by adventurers, travelers, historians, and journalists (Shinwari, 2011). The study of determining factors brings to the fore an indigenous theory of entrepreneurial behaviour (Kreiser, Marino, Dickson, & Weaver, 2010). It is expected that increased entrepreneurial pursuits will reduce extremism in the long run and could become a sustainable base for lasting prosperity (Muhammad, Akbar, & Dalziel, 2011).

Academic literature tends to agree on the basic premise that the creation of an entrepreneur is the outcome of highly-complex interactions of personal characteristics with environmental factors: namely economic indicators, institutional strength, and social receptiveness (Aidis, Estrin, & Mickiewicz, 2008). Whilst economic factors are expected to push or pull people into entrepreneurship, it is the socio-cultural environment which most personally facilitates or constrains entrepreneurial decisions. Some studies suggest that cultural factors play an encompassing and predominant role in making the entrepreneur, whereas other findings attest only to a catalytic role of culture as it shapes a person's occupational decisions (J. C. Hayton, George, & Zahra, 2002). The research in Pakistan has relatively failed to examine behavioural factors in impoverished contexts afflicted by conflicts and disasters. This paper therefore attempts to highlight specific cultural entrepreneurial determinants among one of the world's most disadvantaged groups of tribesmen.

The paper is organized as follows. In the next section, four broad research objectives are articulated. Then a review of the literature on the diverse determinants of entrepreneurship is provided and specifying research hypotheses to be tested are presented with respect to economic, institutional, and cultural determinants of entrepreneurship. Following this, the methodology, sample, data collection, and questions included in the surveys are described. Descriptive results from the survey are presented, then the regression analysis. The paper concludes with a discussion of the results and their implications.

RESEARCH OBJECTIVES

The core aim of this paper is to assess determinants of entrepreneurship in FATA. It will investigate economic, institutional, and cultural determinants in the tribal culture of Pashtuns in this area. The government can then seek to empower and improve the conditions of those entrepreneurial people. The broad objectives can be summarized as:

- To describe possible economic, institutional, and cultural determinants of entrepreneurial behaviour required for socio-economic development and long-term sustainable peace in the special context of FATA, Pakistan based on a broad review of previous studies from other areas.
- To assess, from the viewpoints of entrepreneurs in FATA, perceptions of their own entrepreneurial behavior and their assessments of conditions and beliefs about the factors identified as possible entrepreneurship determinants.
- To characterize FATA entrepreneurs based on the survey responses.
- To investigate the relative effect of economic, institutional, and cultural factors upon risk-taking and innovativeness. In particular, to predict the likelihood of greater entrepreneurial behaviour by examining existent entrepreneurial determinants to identify means to improve entrepreneurial strengths of the local people.

REVIEW OF THE LITERATURE AND HYPOTHESES

Research on entrepreneurial behaviour is relatively scarce in the context of developing countries (Thomas & Mueller, 2000) and is limited in turbulent, war-ravaged environments. Evidence exists in the literature that entrepreneurs in developing/transition countries are often 'necessity entrepreneurs', also called 'proprietors', and not truly entrepreneurs (see e.g. Glenkina, 2003; Scase, 2000). In other words, they are partly of imitative nature, rather than purely innovative entrepreneurs. Nonetheless, some of the same factors that determine innovative entrepreneurship in stable, developed economies are also determinants of necessity entrepreneurship in underdeveloped and turbulent regions. Thus, it is important to investigate the mixed determinants in these unique settings on a case by case basis. Entrepreneurs in conflict regions are expected to struggle for their survival and live in harsh economic conditions. Kirznerian entrepreneurs as opposed to Schumpeterian ones, push the economic structure toward equilibrium by gradually acquiring information about markets (Grilo & Thurik, 2005). Research shows that entrepreneurs often primarily struggle to sustain livelihoods and innovate only under strong economic motivations (Baumol, Litan, & Schramm, 2007). The process of imitation or innovation, or a combination of the two, enables people to live a more prosperous life.

A universal theory of entrepreneurial behaviour has not developed because the field lacks a definite set of determinants applicable across a wide context. The western archetype of national entrepreneurship is determined by a different set of factors than those for developing nations. A predictive entrepreneurship theory is still in the process of maturation. In this regard, the Global Entrepreneurship Monitor's research (Niels, Kent, Erkko, & Levie, 2007) is widely appreciated for categorizing countries, not only on the basis of necessity versus opportunity, but also high and low levels of entrepreneurship. Existing literature categorises entrepreneurial determinants into economic, institutional, and cultural/societal factors (Klapper, 2006; A. R. M. Wennekers, 2006). After describing entrepreneurial behavior, levels at which its determinants have been studied, and personal characteristics associated with entrepreneurship, the following subsections review the literature on the determinants of entrepreneurial behaviour in these categories. Based on the literature, eighteen hypotheses are posited related to these categories of determinants of entrepreneurship.

Entrepreneurial Behaviour

Entrepreneurial behaviour is a broad and extensively examined term. Entrepreneurs are often distinguished from non-entrepreneurs on the basis of behavior that encompasses socio-cultural attitudes and economic activities that are required to initiate new ventures and stand out from others. While there are various conceptualisations, there exists a wide consensus that entrepreneurial behaviour is the exhibition of certain entrepreneurial characteristics, traits, and qualities required to initiate and run an enterprise successfully (Garcia-Cabrera & Garcia-Soto, 2008). The long list

of entrepreneurial characteristics have been summarised and categorised by Tajeddini and Mueller (2009) to include: risk-taking propensity (Mintzberg, 1973), innovativeness (Guroi and Atsan (2006), need for achievement (McClelland, 1961), locus of control (Budner, 1962; Rotter, 1966), tolerance of ambiguity (e.g. Schere, 1982), self-confidence, (H. H. Stevenson & Gumpert, 1985; L. Stevenson & Lundström, 2001), and need for autonomy (Lumpkin & Dess, 1996). Judging from Guroi and Atsan (2006), we consider risk-taking and innovativeness to be of key importance to venture creation and sustaining. In the context of this study, based on the general literature, self-perceptions of risk-taking and innovativeness serve as the main dependent variables measuring entrepreneurial behaviour.

Existing research examines entrepreneurial behaviour at three levels, namely micro, meso, and macro. Studies at the micro level base their analysis on individual entrepreneurs or businesses. They investigate, for example, the decision-making process and motives/characteristics of entrepreneurs. A vast number of studies have focused on micro level determinants of individuals' behaviour such as psychological traits, demographic characteristics, family background, and work experience (A. R. M. Wennekers, 2006). Studies at the meso level focus on market-specific determinants of entrepreneurship, such as profit opportunities and resource utilization (Carree & Thurik, 1996). Research at the macro level pertain to a range of broad factors such as technology, environment/institutions, macroeconomic policies and economic growth, and broad-based cultural factors (Noorderhaven, Thurik, Wennekers, & Stel, 2004).

Scholars categorise personal entrepreneurship determinants mainly as psychological and non-psychological factors. The psychological determinants are derived from specific personality traits and characteristics born of existing theories such as the Big Five Personality traits, Myers Briggs Type Indicator (MBTI), California Psychological Inventory, and the Jackson Personality Inventory (JPI) (McClelland, 1961). The literature has shown psychological factors as determinants of entrepreneurial behavior (see e.g. Cuervo, 2005) as well as consequences of entrepreneurship (see e.g. Cromie, 2000). The latter implies that greater entrepreneurial actions promote favorable psychological traits among its followers.

The non-psychological personal determinants of entrepreneurship have their roots in descriptive and demographic factors (Shane & Nicolaou, 2014). Researchers have attempted to measure the effects of non-psychological personal factors upon patterns of self-employment. These generally include age, ethnicity, education level, gender, and previous experience (Delmar & Davidson, 2000; Reynolds, Monitor, & Babson, 2001). In regards to age, for example, research suggests a positive correlation between middle age cohorts (i.e. 25–45 years) and self-employment (Delmar & Davidsson, 2000). Though studies have found an increasing entrepreneurial tendency in younger age groups, i.e. 25–35 years, nevertheless the middle age group has turned out to be the most represented among entrepreneurs.

Combining the psychological and non-psychological determinants of an individual's behavior results in a personal determination of entrepreneurship. Once developed, the strength of individual level determinants has a direct, positive effect on entrepreneurial rate and behaviour. Some studies suggest that public policies should primarily be directed at improving individuals' personality attributes to improve a national entrepreneurial environment (Mueller & Thomas, 2001). However, in the relationship between individual-level factors and entrepreneurial behaviour, an important link is missing. The activities of a prospective entrepreneur are likely to be affected by the broader economic, institutional, and cultural domain.

Economic Determinants of Entrepreneurship

Economic conditions faced by entrepreneurs/organisations play a very important role in shaping entrepreneurial behaviour. At the micro level, the financial stability of entrepreneurs plays a role in the success or failure of a venture and, at a macro level, a country's economic development helps shape the general level of entrepreneurship (A. R. M. Wennekers, 2006). There is widespread perception that higher levels of economic development influence the supply of entrepreneurship, for example, by providing increased financial resources and more opportunities to actual and potential entrepreneurs (Bruton et al., 2013). Development thereby increases the overall rate of self-employment. In Europe, for instance, greater opportunities became available when enterprises progressed through a visible economical shift in the industrial structure. This shift happened when the economy evolved from the centrality of manufacturing sectors to services (Jong, Parker, Wennekers, & Wu, 2013), creating greater room for potential entrepreneurs.

Elements of entrepreneurial behaviour such as risk-taking and innovativeness are often shaped by broad economic conditions. Measures such as GDP per capita are common indicators. A general agreement is that better economic conditions of entrepreneurs lead to greater entrepreneurial behaviour such as higher risk-taking (S. Wennekers,

Thurik, van Stel, & Noorderhaven, 2007). Nevertheless, in relation to GDP, evidence supports both a positive relation (Parker & Robson, 2004) as well as negative one, pertaining to a decrease in entrepreneurial activity (see e.g. Noorderhaven et al., 2004; Van Stel, Wennekers, Thurik, & Reynolds, 2004). Thus, the literature supports the existence of a U-shaped relation between per capita GDP and entrepreneurship (Verheul, Van Stel, & Thurik, 2006).

Furthermore, the literature on innovation entrepreneurs would lead us to believe that confidence in the security and supportive services is expected to positively contribute to entrepreneurial behavior. The association of economic factors and entrepreneurial behavior is not universal and must be undertaken in conjunction with other environmental determinants. In the context of conflict-ridden zones, these postulated relations need further empirical scrutiny. However, based on existing studies, we hypothesize that:

H1: Entrepreneurial behaviour will positively be influenced by better perceived economic and security and support conditions.

Risk-taking ability will be affected positively by:

- H1a:** a person's better economic situation
- H1b:** better surrounding security and support conditions.

Innovativeness will be affected positively by:

- H1c:** a person's better economic situation
- H1d:** better surrounding security and support conditions.

Institutional Determinants of Entrepreneurship

A. R. M. Wennekers (2006) defines institutions as “the humanly constraints that structure human interaction”. They are made up of formal constraints (e.g. rules, laws, and constitutions) and informal constraints (e.g. norms, conventions, and self-imposed codes of conduct). Existent literature relates several institutional factors with entrepreneurial behaviour. It is generally concluded that the provision of sound business financing sources will increase, ceteris paribus, entrepreneurial behaviour. Similarly, there exists a positive relation between entrepreneurship and governmental protection of legal (e.g contract) and intellectual-property rights (Waziri, 2012). However, having an increased size of the government and its interventions significantly reduces entrepreneurial activity. Restrictions on international trade and import tariffs do not robustly affect entrepreneurial activity (Ovaska & Sobel, 2005).

The literature on the association of entrepreneurial behaviour and administrative burden is fragmented. Entry barriers (measured as costs and time to enter) according to one school of thought, do not appear to affect nascent entrepreneurship (Desai, Gompers, & Lerner, 2003). However, Klapper and Delgado (2007) argue that increasing costs of entry and administrative burden reduce nascent entrepreneurial behaviour. Entry rates rise with less strict administrative regulations and less strict product market regulations. Desai et al. (2003) further adds that the business entry rates rise significantly with less formality and fewer court interferences. Some researchers suggest that institutional corruption greases the wheels of entrepreneurship when there are high levels of regulations in a society (Dreher & Grassebner, 2007; Huntington, 1968). Based on this broad literature, we postulate a second set of hypotheses as:

H2: Entrepreneurial behaviour will be affected positively by perceived institutional strength.

Risk-taking will be affected positively by:

- H2a:** better sources of business financing
- H2b:** a low level of administrative burden
- H2c:** a higher level of protection of legal rights.

Innovativeness will be affected positively by:

- H2d:** better sources of business financing
- H2e:** a low level of administrative burden
- H2f:** a higher level of protection of legal rights.

Cultural Determinants of Entrepreneurship

Many studies consider culture as one of the main pillars of entrepreneurship in a country (Thomas & Mueller, 2000; A. R. M. Wennekers, 2006). The model proposed by J. C. Hayton et al. (2002) presents an overall framework. The authors argue that culture (needs and motives, beliefs and behaviour, cognition and cultural values) act only as a catalyst rather than as a direct causal agent of entrepreneurship. Their model suggests that cultural values complement and shape other main determinants of entrepreneurship, i.e. the economic and institutional factors (A. R. M. Wennekers, 2006). Recent research stresses the need for inquiry into the role of culture in shaping institutions and entrepreneurial outcome in different contexts (e.g. James C Hayton & Cacciotti, 2013).

A review of the literature finds that most of the studies on entrepreneurial determinants have been conducted in a western context (Baum et al., 1993; Mitchell, Smith, Seawright, & Morse, 2000; Naudé, 2011). Evidence exists that entrepreneurship has helped give rise to modern economic prosperity. However, research on primarily western contexts has limited the development of a universal theory. It is also argued that conventional theories do not account for the observed effects and behaviours of different cultures. For example, unlike in the US, Asian entrepreneurs rely more on familial ties in developing their businesses (Thomas & Mueller, 2000). The generalizability of the western findings is thus questioned in different cultural settings.

The literature reveals that most of the work on culture and entrepreneurship has derived variables from Hofstede (1980, 1984) indices. Geert Hofstede (1980) proposed these indices on the basis of a ground-breaking study on the interplay of culture and business in over 40 countries. Among cultural factors, individualism-collectivism, power distance, masculinity-femininity, and uncertainty avoidance stand vital (Geert Hofstede, 1984). Individualism refers to the degree of emphasis placed on individual accomplishments and loose ties in a society, while collectivism measures group achievements within society. Power distance measures the extent to which the less powerful members of society accept and expect that power is distributed unequally (Minkov & Hofstede, 2014). Masculinity refers to the extent of masculine roles in a society such as being assertive and competitive, while femininity measures roles like caring and modesty. Uncertainty avoidance refers to the extent to which people feel threatened by unknown or uncertain situations. The greater this perceived threat, the higher will be uncertainty avoidance and vice-versa (Hofstede, Hofstede, & Minkov, 2010). Based on western context findings, researchers have built a consensus in the literature that entrepreneurship is facilitated by cultures that are high in individualism, low in power distance, high in masculinity, and low in uncertainty avoidance (J. C. Hayton et al., 2002). These factors are empiricised in the literature with variations in the definitions used.

Religious orientation has also been researched in association with entrepreneurial behaviour. Studies suggest that religious orientation is often the outcome of the interaction of culture and surrounding environment and can promote or restrain enterprising behaviour (Mohd, Kirana, Kamaruddin, Zainuddin, & Ghazali, 2014). Altinay and Wang (2011) suggest that there is an insignificant relation between religious orientation and entrepreneurial behaviour. There is little consensus regarding the relationship between religious orientation and entrepreneurial behavior, taken here as risk taking and innovativeness. Below, we put forth hypotheses, based on the consensus literature, utilizing individualism, power distance, masculinity, and religious orientation as possible determinants of these entrepreneurial behaviors:

H3: The more conducive a culture, the stronger will be entrepreneurial behaviour.

Risk-taking propensity will be affected positively by:

H3a: the strength of individualism

H3b: low power distance

H3c: the degree of masculinity

H3d: less religious orientation.

Innovativeness will be affected positively by:

H3e: the strength of Individualism

H3f: low Power distance

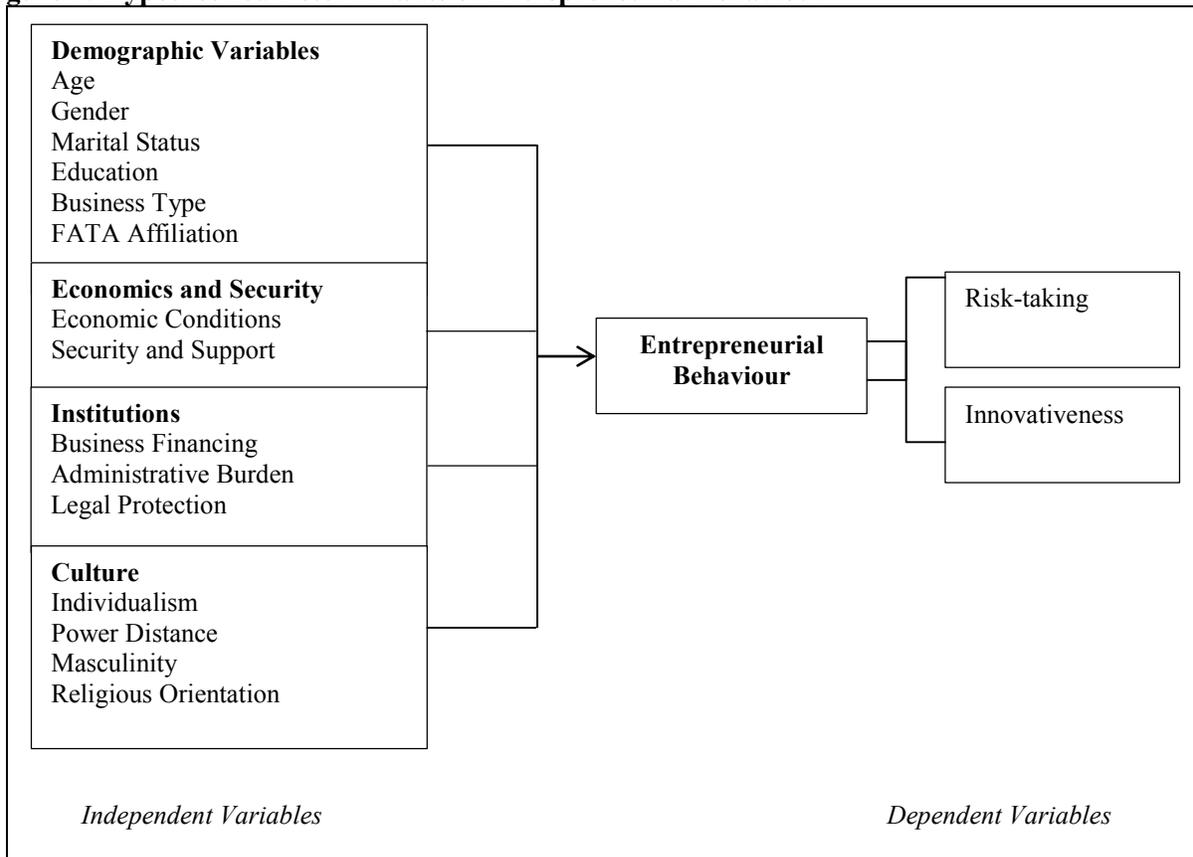
H3g: the degree of masculinity

H3h: less religious orientation.

Only limited studies have, so far, examined the relationship between dimensions of culture and entrepreneurship at a national level (Davidsson, 1995; James C Hayton & Cacciotti, 2013), and such research is scarce in the context of disadvantaged areas of Pakistan. Shane (1993) concludes that the association between specific, cultural dimensions and entrepreneurship is not temporally stable. Similarly, Davidsson and Wiklund (1997) find only marginal effects of culture on national firm formation rates. While some studies show that cultural dimensions only affect the latent entrepreneurship in a country (Freytag & Thurik, 2007), others suggest that cultural values are significantly related to entrepreneurial traits such as risk taking and innovativeness (Mueller & Thomas, 2001; Thomas & Mueller, 2000). It can be argued from the overall literature that cultural influences affect the likelihood to form and develop a business (J. C. Hayton et al., 2002).

In summary, Figure 1 provides a conceptual framework of the association of entrepreneurial behaviour as dependent variables and the demographic and environmental variables in the categories of economics, institutions, and culture as our set of hypothesized determinants of this behaviour.

Figure 1: Hypothesized Determinants of Entrepreneurial Behaviour



RESEARCH METHODOLOGY

Lack of available secondary data is a constraint on research in Pakistan and even more so for the disadvantaged areas such as FATA. Most businesses in FATA are micro and small enterprises primarily run through family and personal networks. Almost all (an estimated 95%) of the businesses are informal and do not register with any government office (Civil Secretariat, 2007).

Given these circumstances, this study relies on a primary data source in the form of a questionnaire administered to selected entrepreneurs. One of the contributions of the study is the empirical nature of the research approach itself, as there have been very limited quantitative studies undertaken in the context of FATA, at least to the authors' knowledge.

The research philosophical paradigm undertaken in this study is a positivist approach with the goal of discovering pre-existing reality (Easterby-Smith, Thorpe, & Jackson, 2008). We seek to assess the traditional business activities of the Pashtun tribesmen through this empirical study and put them in a broader context of entrepreneurial behaviour determinants. The methodology involved a survey technique with a predominantly quantitative tool for data collection through the structured questionnaire. Interviews were administered by undergraduate students at the University of Peshawar whose family origins were in FATA. The data collection approach utilised the familiarity of these research assistants with the area to facilitate the research and sought their involvement in, and support for, careful data collection and analysis.

Data Sample

Despite the poor security conditions in the Pakistan-Afghan border territory, we managed to obtain access to 476 entrepreneurs out of an intended target of 500. The total usable sample comprised 462 entrepreneurs having diverse tribal demography and geography. While our sample largely constituted male participants, we also managed to survey a few tribal female entrepreneurs. Most of the women interviewed were engaged in providing female-specific products and services such as clothing, handicrafts, childcare services, and community development non-governmental organisations. A mix of industries and market sectors is incorporated in the study. This included retail, wholesale, handicraft, manufacturing, transport, and Afghan border trade.

Data Collection

We obtained the addresses of a limited number of formal entrepreneurs through the support of provincial chambers of commerce and industry, the Export Promotion Bureau (EPB), and the Small and Medium Enterprise Development Authority (SMEDA). However, recognizing the preponderance of informal entrepreneurs in the region, survey participants were chosen on a random basis from a population of working businessmen in each headquarter of a tribal agency. The sampling method adopted was stratified random sampling. Each of the seven FATA agencies was treated as a separate strata within which a random selection of respondents were drawn from a pool of entrepreneurs in the marketplaces. Convenience and consent of the entrepreneur helped us to identify and decide whether or not to survey the selected entrepreneurs. Respective graduate assistants were deputed to survey their towns of affiliation. Business premises of the entrepreneurs were the main site of data collection. It was crucial to gather the information from the perspective of informants; therefore the research assistants endeavored to have them understand the meanings of different questionnaire items in the local Pashto language. Each instrument filling process lasted between 30-50 minutes. The questionnaire is presented in Appendix A. Alongside ordinary entrepreneurs, we also surveyed entrepreneurs who performed business in multiple countries and offered supplies to several other entrepreneurs. In order to bring validity to the main findings, as the field research progressed, the research teams sought to interpret the survey data they were collecting in terms of their knowledge of the socio-historic context of the tribal people.

Measures of the Dependent and Independent Variables

The measures used were drawn from the research literature, as described above, and aligned with conceptual underpinnings of each construct. The survey instrument was structured into five parts (see Appendix A). The first part on general information included demographic variables used to develop a profile of the sample and serve as control variables in the regression models. Questions on age, gender, marital status, education, and FATA affiliation were asked along with questions on family background, type of business, and perceived business growth.

The second part of the questionnaire consisted of questions regarding attributes of the entrepreneurial characteristics of risk-taking and innovativeness (the dependent variables). The respondents were asked to answer each question with their perceptions on a 5 point Likert scale, where A=1 indicated strong agreement with the statement made in a question and E=5 indicated strong disagreement.

Parts 3-5 of the survey included questions used to construct the economic, institutional, and cultural categories of entrepreneurial behaviour determinants (the independent variables). These survey questions also measure self-assessed views of the respondents on a 5 point Likert scale. As recommended for surveys such as ours (Gurol & Atsan, 2006), a mix of questions was utilized in which some were written so that agreement was with a statement reflecting a hypothesized positive determinant of entrepreneurial behavior, while other questions were written so that agreement was with a statement reflecting a hypothesized negative effect on entrepreneurial behavior. Twenty-three questions were used to assess the respondents' views and attitudes concerning the nine hypothesized determinants of entrepreneurial behavior shown in Figure 1. A mapping of the survey questions to these nine determinants is shown in Table

1. Those questions asked with agreement indicating an adverse hypothesized circumstance for entrepreneurship are indicated with an * in the table.¹ In the subsequent discussion and regression analysis, these questions were reverse coded for compatibility with the questions with agreement implying a hypothesized conducive determinant of entrepreneurship.

Table 1: Mapping of Survey Questions to Hypothesized Determinants

Variables	Corresponding Survey Questions
<u>Dependent (Part 2 of the survey)</u>	
Risk-taking	Q4, Q6
Innovativeness	Q5, Q7
<u>Independent (Parts 3-5 of the survey)</u>	
<u>Economics and Security (Part 5 of survey)</u>	
Economic Conditions	Q26, Q29*, Q31*, Q33*
Security and Support	Q27*, Q28*, Q30*
<u>Institutions (Part 4 of survey)</u>	
Business Financing	Q19, Q20
Administrative Burden	Q21*, Q22*
Legal Protection	Q23, Q24, Q25
<u>Culture (Part 3 of survey)</u>	
Individualism	Q12, Q14
Power Distance	Q11*, Q13
Masculinity	Q10, Q17
Religious Orientation	Q15*, Q16*, Q18
Notes: * Indicates survey questions for which reverse coding was utilized for the analysis. Questions Q8, Q9, and Q32 in the survey were not ultimately utilized among the hypothesized determinants.	

Dependent Variables

Risk-taking and Innovativeness are the indicators of entrepreneurial behavior and dependent variables in the study. These two variables are often used as proxies for measuring entrepreneurial behaviour in the existing literature. Four questions were used to capture these aspects of entrepreneurial behaviour. The four questions used are adapted from Begley and Boyd (1987). Risk-taking propensity is measured by two questions (Q4 and Q6) of the survey questionnaire. The particular questions are developed on the existing scale of the JPI Manual (Jackson, 1978). Prior studies (see e.g. Young & Brymer, 2000) have frequently used this scale. Similarly, innovativeness questions are taken from the innovativeness subscale of the JPI, consistent with other studies (Tajeddini and Mueller (2009). Two questions measured innovativeness (Q5 and Q7). The four questions used to measure attitudes toward risk-taking and innovativeness were written with a positive response connoting agreement with the statement which implied inclination toward entrepreneurial behaviour. In the regression analysis, scores for risk taking and innovation are the average scores of the respondent for the two questions used to measure attitudes in that regard.

Independent Variables

The independent variables for this study were derived, as described above, from demographic and control indicators and from the three categories of the entrepreneurial environment: economic, institutional, and cultural. In regards to economic determinants, four questions (Q26, Q29, Q31, and Q33) were used to assess respondents' views toward the economic conditions that are hypothesized to determine entrepreneurial behaviour and three questions (Q27, Q28, and

¹ For one example, among the cultural variables, to measure low power distance (hypothesized to be supportive of entrepreneurship), Q11 was transformed to make it consistent with Q13 such that strongly agree (A = 1) implies favorable to entrepreneurship, and strongly disagree (E = 5) implies unfavorable to entrepreneurship when Q11 is reverse coded and Q13 is direct coded.

Q30), are used to measure their assessments of the security and support conditions. Six of these seven questions were written in the negative connotation manner.²

For the institutional determinants, the questions draw specifically on two previous studies (see e.g. Baughn & Neupert, 2003; Busenitz, Gómez, & Spencer, 2000). Two questions (Q19, Q20) assess views about access to business finance, two (Q21, Q22) toward administrative burden, and three (Q23, Q24, and Q25) toward legal protection to entrepreneurs. Two of these six questions were negatively worded. Business finance has been measured by asking individuals whether or not they are able to secure funds easily from banks or friends and family. Administrative burden measures how onerous procedures, regulations, and taxes are perceived to be. Legal protection refers to laws affecting businesses, property rights, and intellectual and human rights.

Lastly, measures for the set of our cultural independent variables were developed on the basis of a highly-used survey called the Values Survey Module (G. Hofstede, Hofstede, Minkov, & Vinken, 2008). Selected cultural constructs namely individualism, power-distance, masculinity, and religious orientation were employed to measure their effects upon the two facets of entrepreneurial behaviour. In total, nine survey questions are used to measure the cultural determinants, with three worded negatively.

DESCRIPTIVE RESULTS

This section draws on the surveys and other information gathered informally during the interviews to provide a description of the entrepreneurs who were interviewed and their perceptions. It is divided into three subsections summarizing the responses in terms of general information, entrepreneurial behaviour (as measured by respondents' perceptions toward risk-taking and innovation), and the economic, institutional, and cultural categories of hypothesized determinants of entrepreneurial behavior. Table 2 provides descriptive statistics for the demographic and other questions that were included in the General Information part of the survey. Table 3 provides descriptive statistics for the questions measuring the dependent variables, risk taking and innovativeness, and the nine independent variables.

General Information

Our sample shows that half of the respondents (54.5%) fell in the age range of 25-35 at the time of their first self-employment. Similarly, most of the entrepreneurs (64.4%) were aged between 25 and 35 when we interviewed them. Only one fifth of participants were aged between 35 and 50 at the time of the interviews. As anticipated, the overall sample comprised predominantly male entrepreneurs (96%) with very little female participation (4%). About 70% of participants were married. Pashtun tribesmen are generally relatively uneducated. This is reflected in the sample data: 65% of the sample are found to have no more than an elementary education and 75% have not had any business education. Almost 86% of the respondents had operated their business between 3.5 and 10 years. A mere 21% had parents who had ever previously operated a business. This indicates that the majority of the respondents exhibited a degree of entrepreneurship by starting a new business. The data also shows the even distribution of tribal affiliation of the sampled entrepreneurs within the seven agencies.

In terms of business type and sector, despite our efforts to survey entrepreneurs in diverse business activities, the vast majority (86.4%) of respondents were sole proprietorships and were in the retail sector (82.7%). This reflects the preponderance of retail businesses among the entrepreneurs operating in FATA. Thus our results will primarily be informative about owners of small, retail businesses. However, a few entrepreneurs engaged in economic activities other than retail are also reflected in our sample. This includes wholesale (5.2%), services (1.1%), manufacturing (2.2%), finance (1.7%), transportation (4.1%), and construction (3.0%).

One of the interesting results from our initial questions concerns business growth. A medium rate of business growth was perceived by 72.1% of respondents, as opposed to reporting low or high growth. This suggests that despite all of the disadvantages and challenges in FATA, nearly three-fourths of the respondents report some level of contentment with their ongoing businesses relative to their own expectations. Among the remaining respondents, the impression is less positive: 22.7% report low business growth, while only 5.2% report high growth.

² In retrospect, we should have distributed the negative-connotation questions more evenly across the categories.

Table 2: Descriptive Statistics for General Information

Variable	Categories	Frequency	Percentage
Age at Self-employment	Less than 25 years	175	37.9
	Between 25 and 35	252	54.5
	Between 35 and 50	35	7.6
Age at Interview	Less than 25 years	69	15
	Between 25 and 35	297	64.4
	Between 35 and 50	95	20.6
Gender	Male	443	96
	Female	19	4
Marital Status	Married	325	70.3
	Divorced or Widowed	24	5.2
	Never married	113	24.5
Age of Business Establishment	Less than 3.5 years	3	0.6
	Between 3.5 and 10	397	85.9
	Between 11 and till now	62	13.4
Parents Business History	Yes	97	21
	No	365	79
FATA Affiliation	Mohmand	80	17.3
	Khyber	68	14.7
	Bajaur	66	14.3
	Malakand	64	13.9
	Waziristan	63	13.6
	Kurram	56	12.1
	Orakzai	65	14.1
Education	None	44	9.5
	Elementary	251	54.3
	High School	107	23.2
	College	34	7.4
	Master	24	5.2
Business education	Yes	113	24.5
	No	349	75.5
Business Type	Sole proprietorship	399	86.4
	Partnership	48	10.4
	Private Ltd. Company	15	3.2
Business Sector	Retail	382	82.7
	Wholesale	24	5.2
	Service	5	1.1
	Manufacturing	10	2.2
	Financial	8	1.7
	Transportation	19	4.1
	Construction	14	3
Business Growth	Low	105	22.7
	Medium	333	72.1
	High	24	5.2

Table 3: Descriptive Statistics of Survey Questions

Score Frequency						Topic and Questions	Actual or Reversed Question
A = 1	B = 2	C = 3	D = 4	E = 5	Average		
						<i>Entrepreneurial Characteristics</i>	
						<u>Risk-taking</u>	
44	144	197	60	17	2.70	Q4	I like to put my resources, money and life <i>at stake</i> for higher profits
35	178	112	100	27	2.79	Q6	I am well known as a <i>risky undertaker</i> who enjoys moderate risks in life
						<u>Innovativeness</u>	
33	235	109	53	32	2.60	Q5	I quickly get fed up with old things and <i>try new ways</i> of doing things
21	263	97	61	20	2.56	Q7	I most often come up with <i>new ideas</i> and plans in life and business
						<i>Economics and Security</i>	
						<u>Economic Conditions</u>	
43	196	180	41	2	2.49	Q26	I start my business because I and my family were having enough money
85	40	76	216	45	3.21	(reversed) Q29	Overall not <i>adverse economic</i> situation
31	33	260	84	54	3.21	(reversed) Q31	Not too much <i>perceived competition</i>
17	255	73	108	9	2.65	(reversed) Q33	Not an unsafe and <i>insecure location</i> of the enterprise
						<u>Security and Support</u>	
20	34	83	248	77	3.71	(reversed) Q27	The security conditions are not poor
33	130	73	93	133	3.35	(reversed) Q28	There is not a lack of formal <i>support services</i> by government
46	220	71	118	7	2.61	(reversed) Q30	There is not <i>poor transportation</i> and supply of raw materials
						<i>Institutions</i>	
						<u>Business Finance</u>	
26	131	123	128	53	3.11	Q19	Getting <i>loans from banks</i> and other institutions is quite easier
35	90	109	202	25	3.20	Q20	Getting <i>loans from family</i> and friends is quite easier
						<u>Administrative Burden</u>	
2	53	133	221	52	3.58	(reversed) Q21	Administrative <i>procedures and regulations</i> are not too much
2	89	131	214	23	3.36	(reversed) Q22	Not too complicated and overburdened <i>taxes</i>
						<u>Legal Protection</u>	
30	223	85	118	5	2.66	Q23	The government <i>provides legal protection</i> to most newly-created businesses
9	195	103	116	38	2.95	Q24	All <i>property rights</i> are clear and protected by law
31	248	55	99	28	2.66	Q25	All <i>intellectual and human rights</i> are protected by law
						<i>Culture</i>	
						<u>Individualism</u>	
105	242	76	38	1	2.11	Q12	I am a <i>unique individual</i> totally different from my family/friends
31	177	131	115	8	2.77	Q14	I do not attribute my success to <i>my group/family</i>
						<u>Power distance</u>	
14	124	205	117	2	2.93	(reversed) Q11	Subordinates are not <i>mostly afraid</i> of their bosses in work-related decisions
50	261	137	14	0	2.25	Q13	I most often consult my <i>subordinates</i> in decisions relating their work
						<u>Masculinity</u>	
87	269	56	49	1	2.15	Q10	I am a hard worker and always <i>seek competition</i> and growth
52	141	92	166	10	2.87	Q17	I live a happy life and try best to fulfill all <i>my desires</i>
						<u>Religious Orientation</u>	
45	184	130	41	61	2.76	(reversed) Q15	<i>Religion</i> does not shape my life more than anything else including culture
45	254	61	99	3	2.48	(reversed) Q16	Strictly following (past) <i>culture and traditions</i> will not always result in prosperity
33	164	178	82	3	2.69	Q18	One should be allowed to fulfill ones desires in a limited fashion

Note: Bold text indicates how question would have been asked to correspond to reverse coding of responses

Entrepreneurial Characteristics

As shown in Table 3, responses to the two questions measuring attitudes toward risk are smoothly distributed with concentrations on agree (B=2) and neither agree nor disagree (C=3). The average response is near 2.7, between agree and neither agree nor disagree. The results for the two questions measuring innovativeness have similar distributions, with an average scores near 2.6 indicating slightly stronger agreement on this entrepreneurial behaviour. Thus, overall, the interviewed entrepreneurs in FATA generally agree that they exhibit positive attitudes toward taking risks and being innovative but do not aggressively assert that they have these characteristics.

Independent Variables: Economics/Security, Institutions, and Culture

In regards to the first set of independent variables, our sample data shows mixed evidence for perceived economic and security conditions. When asked about the financial strength of the family (Q26), the largest group of respondents (196) answered agree, with an average score near 2.5. The three other questions measuring economic conditions, and the three questions about security and support, were reverse coded to facilitate the analysis. As for perceived competition (Q31), the majority of respondents (260) reported a neutral expression of opinion. Nearly half (216) disagreed with the view that there was a favorable (not adverse) economic situation (Q29). This was an expected finding because Pashtun tribes have experienced increased turmoil in their socio-economic patterns in the last decade or so. In terms of the location of their business (Q33), a majority (255) nonetheless agreed that their situation was safe (not unsafe).

In contrast to the question on business location, over half of the respondents (248) disagreed with a more general statement of security conditions being good (not poor) FATA, while only 20 respondents strongly agreed that security conditions were not poor (Q27). The average score of the respondents' answers was 3.7, which is the strongest disagreement to a question posed among all questions asked. The next question (Q28), when reversed, stated that there is not a lack of formal support services by government. The findings show an average score of 3.35, with the largest group of strong disagreement of any question, indicating that there is a perceived lack of government support services. In contrast, respondents expressed contentment with transportation (Q30) by agreeing to the question that there is good (not poor) transportation and supply of raw materials in FATA territories. The average score (2.6) however lies between agree and neither agree nor disagree.

The frequencies of different responses for the independent variables of institutional and cultural factors are also presented in Table 3. Among the institutional factors, on questions regarding business finance, a slightly unexpected average response score of over 3.0 is reported indicating a slight disagreement to the two questions posed, with the distribution of answers fairly evenly spread between agree, neither agree nor disagree, and disagree. A general consensus is found that respondents do not find it easy to obtain loans either from banks or friends and family. As opposed to the common view of familial networks, getting loans from friends and family in FATA is not perceived as easy. Nevertheless, it has been observed that people often still prefer taking loans from known family or friends possibly because of the convenience and flexibility of paying them back as compared to more formal channels.

For the two questions (Q21 and Q22) measuring administrative burden (reversed coded as not too much), the average response is concentrated above 3.0. This may reflect that Pashtun tribesmen find governmental regulations and tax systems quite complicated and overburdened. The respondents clearly understood the implications of their direct answers to the questions in the survey. The responses are consistent with the view (Q28) that there is a lack of government support services, both questions reflecting dissatisfaction with the operation of government in FATA. However, with respect to legal protections, the average scores suggest that respondents are more positive. The most common response to all three questions was to agree that legal protections were provided. For example, on the question regarding human and intellectual rights protection (Q25), the majority of respondents (248) agreed that the government provides this kind of protection. The result are similar for legal protection of new businesses (Q23) and slightly less positive for protection of all property rights (Q24).

The last set of our independent variables constitute the selected cultural variables including individualism, power-distance, masculinity, and religious orientation. The overall average response for the question 'I am a unique individual' (Q12) is 2.1 which suggests respondents' agreement with this view. The average score on this question shows the most agreement among all of the questions in the survey. On the second question 'whether you attribute your success to group/family' (Q14), the average score suggests the responses are more neutral. Together, we can infer that tribal entrepreneurs consider themselves somewhat individualistic in their day-to-day living orientations. For the case of power-distance, the majority (261) agree that they consult with employees (Q13) but are less likely to agree (124) that subordinates are not mostly afraid of them (Q11).

Responses for masculinity suggest that Pashtun entrepreneurs consider themselves hardworking and willing to face competition (Q10). These scores show the second most agreement among all questions asked. The responses reflect a continuous economic struggle of Pashtun tribesmen living in rigid mountainous areas adjoining the Afghan border. This finding is understandable on the basis of common observations about Pashtun people as a whole. When asked about whether they live a happy life and fulfill all their desires, responses were mixed at best, and the average scores were closer to neither agree nor disagree.

Finally, religious orientation serves as the last independent variable under the cultural determinants. Responses showed religion did not receive supremacy over other important factors of life (Q15). The largest group of respondents (184) agreed that religion does not influence their lives more than anything else. The average score is 2.8, reflecting mixed opinions regarding the importance of religious orientations in life. This is contrary to the common belief that religion is the driving force behind activities among Pashtun people. Instead, it appears that economic and other interests dominate religious values. Similarly, more than half of the respondents (254) agreed that following past culture and traditions does not always result in prosperity, but they do not express strong views on whether one should be allowed to fulfill one's desires (Q18).

Overall, the descriptive statistics of our sample data convey an interesting picture of the surveyed entrepreneurs in FATA. They perceive themselves to be moderately risk taking and innovative, based on being unique, hard-working, and having started their own businesses with sufficient family resources. They generally perceive economic conditions as adverse and competitive, overall security conditions as poor, are dissatisfied with government support services and administrative burdens, and do not think credit is easy to obtain. However, they are more satisfied with legal protections provided by the government and the supply and transportation of raw materials. They do not perceive religion as dominant in shaping their lives, as might have been anticipated, but nor are they self-indulgent in pursuing one's desires.

REGRESSION ANALYSIS

This section reports results from the regression analysis undertaken to assess the determinants of entrepreneurial behavior as reflected in risk-taking and innovativeness. First we will discuss the results on risk-taking, followed by innovativeness.

Prior to the regression analysis, all of the constructs that merge the individual questions into the two dependent and nine independent regression variables, as shown in Figure 1 and Table 1, were subjected to reliability tests (Field, 2013). The utilized 'scale' should reflect the underlying meaning of the construct it is measuring. While entrepreneurship researchers use factor analysis to identify pertinent categories for reducing large numbers of variables into a smaller number of scales, reliability analysis is an approach used to assess the degree of inter-correlation and coherence between the components. Since this study adapted most of the scales from existing studies, it need not generate the factors, instead it needs to test the already constructed measures. Reliability tests results for our sets of dependent and independent variables are reported in Table 4.

Table 4: Inter-Item Consistency Scores (Cronbach α) for Each Dependent and Independent Variable

Construct		Coefficient of Reliability (Cronbach α)
Entrepreneurial Behaviour	Risk-taking	0.66
	Innovativeness	0.64
Economic factors	Economic Conditions	0.85
	Security and Support	0.76
Institutions	Business Financing	0.55
	Administrative Burden	0.71
	Legal Protection	0.68
Culture	Individualism	0.6
	Power Distance	0.73
	Masculinity	0.48
	Religious Orientation	0.76

The results indicate that Cronbach's alpha scores are mostly in an acceptable range for the scales. For example, alpha scores for risk-taking and innovativeness are 0.66 and 0.64, respectively, while those for economic conditions and security and support are 0.85 and 0.76. Other scores are mostly in a similar range. There are however some

low scores reported for business financing and masculinity. These scores lie below the suggested benchmark scores of 0.6 and 0.7 (Field, 2013). The value of α depends on the number of items making up the construct. It is therefore argued that low alpha scores are not uncommon especially when there are only a few questions making up the construct for a given dependent or independent variable, as in the case of our study (Pallant, 2005).

Regression Analysis for Risk-Taking

Hierarchical logistic regression was performed on risk-taking as an outcome based on the nine hypothesized determinants put forth by the literature while controlling for five demographic effects. The dependent variable was separated into two categories: average score below or equal to 3 versus average score above 3. A test of the full model with all fourteen predictors against a constant-only model was statistically significant, $\chi^2(14, N = 462) = 52.598, p < .01$ (Omnibus model test, Table 4). The Omnibus test of coefficients shows us how well the model performs overall. This indicates that the predictors, as a set, reliably distinguished between high risk-taking and low risk-taking as a characteristic of entrepreneurs. In addition, the results of the Hosmer and Lemeshow goodness-of-fit test (Table 4) show significant values in the equation, $\chi^2(8, N = 462) = 32.18, p < .10$. The result in this case indicates that the model fits the data reasonably well.

Table 5: Risk Taking Model Statistics

Omnibus Tests: Model Coefficients of Logistic Regression for Risk-taking				
		Chi-square	Df	Sig.
Step 1	Step	46.449	14	0.001
	Block	46.449	14	0.001
	Model	52.598	14	0.001
Hosmer and Lemeshow Test of Goodness-of-fit for Risk-taking				
Step 1		32.187	8	0.077
Model Summary for Variation in Risk taking by a Set of Predictors				
		-2 Log likelihood	Cox & Snell R-Square	Nagelkerke R-Square
Step 1		371.138	0.143	0.19

For logistic regressions, the values of pseudo R-square are provided by Cox & Snell R-Square and Nagelkerke R-Square statistics. Spicer (2005) suggests that the two R-square measures might be viewed as tentative indicators of the range within which the independent variables influence the dependent variable. The results suggest that the independent variables explain somewhere between 14.3% and 19.0% of the variation in the dependent variable.

Table 6 shows the regression coefficients, Wald statistics, odds ratios, and 95% confidence interval for odds ratios for the demographic variables and the nine hypothesized determinants of entrepreneurship. Given the way our hypotheses are stated, and our dependent and independent variables are coded, a positive B coefficient indicates support for the hypothesized relationship between any of the nine determinants and risk-taking behavior. Responses for all independent variables are converted into dichotomous categories of low and/or high. For the demographic variables, the measures are as follows: age is measured by four categories in the regression analysis ranging from 1 (less than 25) to 4 (greater than 50), while keeping 1 as reference category. Similar categorization was done for education, ranging from 1 (basic education) to 5 increasing education and 6 being equal to none. Gender is considered to be a dummy variable having 1 = male and 0 = female. Moreover, marital status and business type had four categories each which were coded in the regression from 1 to 4. The first category was used as the reference, for example, for business type, sole proprietorship was used as reference for the remaining ones.

Wald tests are the most common test in logistic regression, and it can be interpreted that only variables having $p < .05$ or $p < .10$ contribute significantly to the predictive ability of the model. In the case of risk-taking, six variables met the criteria of $p < .05$ in predicting risk-taking propensities. These are respondents' age from among the demographic variables, the two economics and security determinants, administrative burden from among institutional determinants, and individualism and power distance from among cultural determinants.

Table 6: Logistic Regression Analysis: Risk-taking as a Function of Economic, Institutional, and Cultural Factors

Variables	B	Wald chi-square	Sig.	Odds ratio	95% Confidence Interval for Odds Ratio	
					Upper	Lower
<u>Demographic</u>						
Age	-0.96	12.72	.004***	0.38	0.223	0.647
Gender	-0.42	1.33	0.248	0.657	0.322	1.33
Marital Status	-0.25	3.09	.078*	0.773	0.58	1.03
Education	0.069	0.34	0.56	1.07	0.85	1.35
Business Type	-0.24	0.453	0.501	0.785	0.388	1.58
<u>Economics and Security</u>						
Econ. Conditions (H1a)	1.281	19.461	.000***	3.599	6.357	2.037
Security & Support (H1b)	-0.791	8.033	.005***	0.453	0.783	0.262
<u>Institutions</u>						
Business Financing (H2a)	0.555	2.87	.090*	1.742	3.309	0.917
Admin. Burden (H2b)	-0.932	9.321	.002***	0.394	0.716	0.216
Legal Protection (H2c)	-0.337	1.487	0.223	0.714	1.227	0.415
<u>Culture</u>						
Individualism (H3a)	-0.91	7.552	.006***	0.402	0.77	0.21
Power Distance (H3b)	-0.702	6.022	.014**	0.496	0.868	0.283
Masculinity (H3c)	0.193	0.218	0.64	1.213	2.723	0.54
Relig. Orientation (H3d)	-0.515	1.575	0.21	0.598	1.335	0.268
(Constant)	0.662	1.097	0.295	1.938		

*** significant at .01 level; ** significant at .05 level; * significant at .10 level

The results are also mixed in terms of support for the hypothesized relationships among these significant variables. Looking at the *B* coefficients or the odds ratios, older respondents are shown as less likely to be risk takers. Among the nine hypothesized determinants of entrepreneurial behaviour, in the case of risk-taking, only the economic conditions hypothesis is supported by a significant, positive *B* coefficient. In this case, the odds ratio for a person to believe themselves as being high risk-taking is 3.6 times higher for someone who viewed the economic conditions favorably. The rest of the significant predictors, i.e. security and support, administrative burden, individualism, and power distance have negative *B* coefficients and corresponding odds ratio value less than 1. This means that for every unit increase in the last four predictors, the odds of a person reporting higher risk-taking will be decreased despite these being conditions we hypothesized would increase risk-taking. These coefficients do not support our hypothesized relationships based on the broad literature.

Regression Analysis for Innovativeness

The model fit statistics for our logistic regression analysis with innovativeness as the dependent variable measuring entrepreneurial behaviour are presented in Table 7. Based on the Omnibus and Hosmer and Lemeshow test results, the regression model is deemed to reasonably fit the data. The goodness of fit achieved through the Hosmer and Lemeshow test is again significant at $p < .10$. The pseudo R-square for innovativeness suggests the independent variables explain between 47.6% and 64.6% of the variation in innovativeness. This implies that the set of independent variables explains the variation in the dependent variable of innovativeness to a larger extent than for risk-taking.

Table 7: Innovativeness Model Statistics

Omnibus Tests: Model Coefficients of Logistic Regression for Innovativeness				
		<u>Chi-square</u>	<u>df</u>	<u>Sig.</u>
Step 1	Step	154.85	8	0.001
	Block	154.85	8	0.001
	Model	195.35	14	0.001
Hosmer and Lemeshow Test of Goodness-of-fit for Innovativeness				
Step 1		21.7	8	0.064
Model Summary for Variation in Innovativeness by a Set of Predictors				
		<u>-2 Log likelihood</u>	<u>Cox & Snell</u>	<u>Nagelkerke</u>
			<u>R-Square</u>	<u>R-Square</u>
Step 1		208.77	0.476	0.646

Table 8 presents the innovativeness model results. In the Wald chi-square test, significant contributions ($p < .05$) arise for business type among the demographic variables, security and support among the economic and security variables, all three of the institution variables (financing, administrative burden, and legal protection), and masculinity among the culture variables. For innovativeness, the positive B coefficients and corresponding odds ratios greater than 1 are supportive of our hypothesized relationships for two institutional variables (administrative burden and legal protection) and for masculinity among cultural variables. These positive significant B values indicate that an increased perceptions of low administrative burden, good legal protection, and masculine personality characteristics will result in an increased probability of a person reporting high innovativeness. The odds ratios are particularly high for administrative burden and masculinity. In the case of security and support and business finance, however, the significant negative B values do not support our hypothesized relationships based on the literature.

Table 8: Logistic Regression Analysis: Innovativeness as a Function of Economic, Institutional, and Cultural Factors

Variables	B	Wald chi-square	Sig.	Odds ratio	95% Confidence Interval for Odds Ratio	
					Upper	Lower
<u>Demographic</u>						
Age	0.206	0.294	0.558	1.22	0.583	2.59
Gender	0.305	0.059	0.808	1.12	0.423	3.01
Marital Status	-0.486	6.17	.078*	0.083	0.42	0.903
Education	-0.079	0.223	0.637	0.924	0.665	1.28
Business Type	1.24	8.26	.004***	3.46	1.484	8.06
<u>Economics and Security</u>						
Economic Conditions (H1c)	0.059	0.022	0.882	1.061	2.324	0.485
Security and Support (H1d)	-1.818	22.459	.000***	0.162	0.344	0.077
<u>Institutions</u>						
Business Financing (H2d)	-3.531	47.488	.000***	0.029	0.08	0.011
Admin. Burden (H2e)	2.571	29.092	.000***	13.079	33.292	5.139
Legal Protection (H2f)	1.624	16.6	.000***	5.074	11.084	2.323
<u>Culture</u>						
Individualism (H3e)	-0.785	3.08	.079*	0.456	1.096	0.19
Power Distance (H3f)	0.327	0.72	0.396	1.387	2.951	0.652
Masculinity (H3g)	2.679	25.168	.000***	14.573	41.507	5.116
Relig. Orientation (H3h)	-0.664	1.475	0.225	0.515	1.503	0.176
(Constant)	1.165	1.806	0.179	3.205		

*** significant at .01 level; ** significant at .05 level; * significant at .10 level

DISCUSSION AND CONCLUSIONS

This paper has had four components. First, we made the arguments that Pashtun tribesman in FATA, Pakistan are more likely necessity entrepreneurs, that facilitating long-term indigenous entrepreneurial behavior could contribute to peace and tranquility in the area, and that not enough research has been directed to understanding the perceptions of local entrepreneurs in FATA and how entrepreneurship can be enhanced. From these arguments we lay out four research objectives aimed at contributing to the knowledge of tribal entrepreneurship through the assessment and analysis of perceptions among surveyed small-scale entrepreneurs in the seven FATA administrative units regarding the levels of their entrepreneurial behaviour and its determinants.

Second, we provide a review of the extensive literature on measures of entrepreneurial behavior and the diverse factors affecting entrepreneurship, ranging from personal, psychological, and demographic characteristics of individuals to the economic and security, institutional, and cultural environments in which they are embedded. This leads us to focus on two specific aspects of entrepreneurial behavior, risk-taking and innovativeness, and a set of hypotheses, based on the consensus of the literature, about nine determinants of this behaviour drawn from these three categories (eighteen hypotheses in total).

Third, we describe the survey undertaken to interview 462 randomly-selected entrepreneurs in the headquarter town of each tribal agency conducted by supervised teams from the area. The survey gathered general demographic background information and the respondents' self-perceptions on four questions that reflect their attitudes toward risk-taking and innovative activities. The survey also utilized 23 questions to gather respondents' perceptions about the nine factors hypothesized to determine entrepreneurial behavior. The wording of these questions, and how they were coded for discussion and distillation into nine composite variables utilized for hypothesis testing, are described.

The descriptive results from the survey provide an interesting depiction of the FATA entrepreneurs, their businesses, and their views. The vast majority are males, generally between 25 and 35 years old, who have little education and initiated their own businesses, as opposed to entering into a business operated by their parents. Most of

the businesses are sole proprietorships in the retail sector and have been operating between 3.5 and 10 years. The respondents often characterize recent business growth as medium, as opposed to low or high. The respondents perceive themselves to be moderately risk-taking and innovative, hardworking, and that religion is not dominant over all else in their lives. They generally perceive economic conditions as adverse and competitive, credit as hard to obtain, and overall security conditions as poor. They are dissatisfied with government support services and administrative burdens, while being more satisfied with the legal protections they receive and the availability of raw materials.

Fourth, we have undertaken some preliminary regression analysis of the determinants of FATA entrepreneurship. Overall, we find only limited support for the relationships hypothesized between determinants of entrepreneurial behavior in each of the three categories and our risk-taking and innovativeness measures. Out of the eighteen hypothesized relationships, only four are supported, while the remaining fourteen are not supported. Supported hypothesis are the ones for which results are statistically significant and in the anticipated direction.

Among the supported hypotheses, there is a greater likelihood of risk-taking propensities if there are perceptions of positive enabling economic conditions in Pashtun society. This is quite understandable in the sense that, like any other rural society, the Pashtun tribesmen think of financial need and surrounding economic conditions as basic ingredients toward a successful entrepreneurial career. In addition, risk-taking is also found to be affected by age with the plausible implications that higher-aged entrepreneurs are less likely to perceive themselves as being risk-takers.

The results are a little stronger for the determinants of innovativeness. The overall innovation regression has higher explanatory power than the risk-taking regression. While the Pashtun economy is largely based on close knit family businesses (Bullough & Renko, 2013), and is not reliant on outside financing, entrepreneurs in FATA are predicted to display greater innovative behaviour when their perceptions are that they are better supported institutionally. In particular, the results suggest that innovativeness is enhanced by perceptions of low administrative burdens and stronger levels of legal protection. At present, a low level of technological innovation is observed among FATA tribesmen. The regression results suggest that innovation can be stimulated in the future by lowering administrative burdens that are currently perceived as high and by the provision of legal rights and protection which are already perceived as reasonably well provided.

The regression results also indicate that innovativeness is enhanced by masculine personality characteristics, a finding already supported in the literature (Lin, 2009). Innovativeness is generally considered to be a product of teamwork and perseverance that requires competitive strength usually found in masculine behaviour (Grinstein, 2007; Wikhamn & Knights, 2013). Promoting masculine behaviour and assertiveness could thereby help promote an enterprising behaviour characterized by innovation in FATA.

These significant positive effects that are consistent with the hypotheses are encouraging in placing entrepreneurship in FATA within the context of the broader understanding of entrepreneurship. However, looking across the two regressions, any interpretation given to this evidence in favor of several of our hypotheses has to be tempered by the significant rejection of the hypotheses, in some cases, and the insignificant coefficients in others. This facet of our analysis points to a more nuanced view of how we look at the determinants of entrepreneurship in FATA, perhaps not always in line with what the consensus literature would lead us to hypothesize.

Some of the unexpected results provide a basis for consideration of alternative hypothesized relationships and further exploration. For example, while the risk-taking behaviour of our sampled entrepreneur is found to have been enhanced by perceptions of better economic conditions, among cultural factors, less individualism (collectivism) significantly increases the probability of reporting high risk-taking. This is in contrast to our hypothesized relationship based on previous research that suggested a positive relation between individualism and risk-taking (Ten Dam, 2014). The regression results support an alternative hypothesis that risk-taking can be equally exhibited among collectivist societies. This is in line with Kreiser et al. (2010) who find similar orientations of individualistic and collectivistic cultures toward risk. Apparently, because of long conflict and reduced opportunities in the tribal regions, collective attitudes reinforce risk-taking behaviour. In other words, familial business venturing and risk-taking has been encouraged because of severe needs.

The results for security and support also potentially lead to an alternative to the hypothesis we proposed. In both the risk-taking and innovativeness regressions, this variable has a significant negative sign, contrary to our hypothesis. These are surprising results not consistent with previous literature (Giacomin et al., 2011). Perhaps these regression results tell us something different about necessity entrepreneurship in FATA compared to results reported

in other studies which mostly focus on opportunity entrepreneurs. What is suggested is that tribesman in FATA perceive themselves to be driven into necessity entrepreneurship by worse security and support conditions, rather than being drawn into entrepreneurship by improved security and support, as might be the case in less conflict-affected circumstances.

A third example where a plausible alternative hypothesis is suggested by the regression results is perceptions of better business finance having a significant negative effect in the innovativeness regression (compared to positive and marginally significant in the risk-taking regression). Financing may prove instrumental in establishing new ventures but result in a decreased probability of reporting innovative enterprising behaviour. Limits on the different sources of business financing available to Pashtun entrepreneurs may force individuals to think independently and to innovate new means of earning a livelihood. Pashtuns are generally considered to avoid financing their enterprises through banks and other financial intermediaries, instead preferring to take loans from family members. Hence they may have learned to live under financial constraints, and this might enhance their likelihood to innovate out of necessity.

The point here is not to argue that each significant coefficient contrary to our hypothesized relationship should be interpreted as conclusive proof of an alternative argument. Instead the point is more limited. It is to suggest that the regression results are preliminary and should stimulate further reflection and analysis of entrepreneurship and its determinants in the unique circumstances of FATA. A similar conclusion arises for the many insignificant coefficients in the regressions. For example, the average perception of respondents is that religion is not the dominant factor in their lives with a relatively evenly-distributed range of views from strongly agree to strongly disagree. With this range of responses, the regression results do not provide significant support for our hypothesis that less religious orientation enhances risk-taking or innovation behaviour. Nor is there evidence that a more religious orientation enhances entrepreneurship.

Further research will shed additional light on the issues that this study has highlighted. For example, our data was collected in a cross-sectional manner in an area that is difficult for researchers to access. A more in-depth, longitudinal analysis may be utilized to identify changes in entrepreneurial behaviour. This study also focused on two key components of entrepreneurial. For a broader conceptualization of FATA entrepreneurial behaviour, future research should examine other components that may help explain the rate and behaviour of new venture formation. These include, but are not limited to, need for achievement, locus of control, tolerance of ambiguity, self-confidence, and need for autonomy (Tajeddini & Mueller, 2009). In addition, it could be informative to compare the behavior of Pashtun entrepreneurs in different circumstances from around the country to assess the unique aspects of entrepreneurship in FATA versus what might be common among Pashtuns in general. Likewise, further assessment of similarities and differences in the notions of entrepreneurial behavior and its determinants between the seven tribal agencies could guide public policy at the regional and national level. Such research would build regional profiles of Pashtun entrepreneurs and the peculiar drivers of their entrepreneurial behaviour. The findings of such research could be utilized to address grievances, promote enterprising behavior, and reduce extremist tendencies in the long run.

Taking all of the above dimensions into account, this study advances entrepreneurial behaviour research in an unusual circumstance of chaos and conflict confronted by the Pashtun tribesmen in FATA, Pakistan. Little previous empirical research has been conducted from within to ameliorate the socio-economic conditions of disadvantaged tribesmen. The current research demonstrates through empirical modelling that certain environmental factors are more effective in determining facets of entrepreneurial behaviour than others. Despite the varying results for risk-taking and innovativeness, the overall findings of this study suggest that economic and institutional conditions are important factors in determining entrepreneurial potential and behaviour in the tribal context. In addition to economic and institutional factors, culture influences entrepreneurial behavior. Perhaps this is through indirect means, as suggested by Hayton & Cacciotti (2013), that culture, empiricised through both emic and etic perspectives, conditions the potential for greater entrepreneurial characteristics. In general, customized cultural dimensions in aggregate form can lead to an overall supportive environment that increases, *ceteris paribus*, the entrepreneurial behaviour of a country. Most broadly, this study supports the proposition that an expansive and inclusive conceptualization of entrepreneurial behavior, being the outcome of several categories of determinants, is appropriate for small-scale entrepreneurs in FATA.

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APPENDIX A: SURVEY QUESTIONNAIRE

UNIVERSITY OF PESHAWAR, PAKISTAN

Exploring Determinants of Entrepreneurial Behaviour in Disadvantaged Areas of KPK Pakistan The Questionnaire

Thank you for participating in University of Peshawar and USAID survey of entrepreneurs. You will be asked questions about yourselves, entrepreneurial characteristics, economics, culture and institutions.

Part 1. General Information

Q.1 Personal information

a) Your age range:
1. Less than 25 years 2. Between 25 and 35 3. Between 35 and 50 4. Over 50

b) Your age at the time of first self-employment activity (if any):
1. Less than 25 years 2. Between 25 and 35 3. Between 35 and 50 4. Over 50

c) Your gender:
1. Male 2. Female

d) Your marital status:
1. Married 2. Divorced 3. Widowed 4. Never married

e) Your formal academic qualification:
1. Elementary school 2. High school 3. College level
4. Master 5. Ph.D 6. None

f) Your affiliation with FATA agency:
1. Mohmand 2. Khyber 3. Bajaur 4. Malakand
5. Waziristan 2. Kurram 3. Orakzai

Q.2 Background information

a) Have you attended any business related course? Yes No

b) Are you a native citizen of your country of residence? Yes No

c) Have your parents ever owned or operated their own business? Yes No

d) Have your parents attended any school or college? Yes No

Q.3 For Businessmen/women participants only

a) Type of your business:
1. Sole proprietorship 2. Partnership 3. Private Ltd Co. 4. Public Ltd.

b) Your business sector:
1. Retail 2. Wholesale 3. Service
4. Manufacturing 6. Financial 7. Transportation
8. Construction 9. Other, please specify: _____

c) Age of business establishment:
1. < 3.5 years 2. 3.5-10 years 3. 11- till now

d) Rate of business sales growth in the last few years:
1. Low 2. Medium 3. High

Part 2. Entrepreneurial Characteristics

Please indicate how much you agree or disagree with each of the following statements by checking the appropriate block to the right of the statement.		Strongly Agree (A)	Agree (B)	Neither Agree nor Disagree (C)	Disagree (D)	Strongly Disagree (E)
4.	I like to put my resources, money and life <i>at stake</i> for higher profits					
5.	I quickly get fed up with old things and <i>try new ways</i> of doing things					
6.	I am well known as a <i>risky undertaker</i> who enjoys moderate risks in life					
7.	I most often come up with <i>new ideas</i> and plans in life and business					
8.	I am much better in <i>achieving goals</i> on time and capturing opportunities					
9.	I want to achieve more valuable things for me and my family					

Part 3. Cultural Determinants

Please indicate how much you agree or disagree to the questions regarding YOUR CULTURE by checking the appropriate block to the right of the statement.		Strongly Agree (A)	Agree (B)	Neither Agree nor Disagree (C)	Disagree (D)	Strongly Disagree (E)
10.	I am a hard worker and always <i>seek competition</i> and growth					
11.	Subordinates <i>mostly afraid</i> of their bosses in work-related decisions					
12.	I am a <i>unique individual</i> totally different from my family/friends					
13.	I most often consult my <i>subordinates</i> in decisions relating their work					
14.	I do not attribute my success to <i>my group/family</i>					
15.	<i>Religion</i> shapes my life more than anything else including culture					
16.	Strictly following (past) <i>culture and traditions</i> will always result in prosperity					
17.	I live a happy life and try best to fulfill all <i>my desires</i>					
18.	One should be allowed to fulfill ones desires in a limited fashion					

Part 4: National Institutional Determinants

Please indicate how much you agree or disagree to the questions regarding YOUR COUNTRY'S INSTITUTIONS by checking the appropriate block to the right of the statement.		Strongly Agree (A)	Agree (B)	Neither Agree nor Disagree (C)	Disagree (D)	Strongly Disagree (E)
19.	Getting <i>loans from banks</i> and other institutions is quite easier					
20.	Getting <i>loans from family</i> and friends is quite easier					
21.	Administrative <i>procedures and regulations</i> are too much					
22.	Too complicated and overburdened <i>taxes</i>					
23.	The government <i>provides legal protection</i> to most newly-created businesses					
24.	All <i>property rights</i> are clear and protected by law					
25.	All <i>intellectual and human rights</i> are protected by law					

Part 5. Perceived Economic Determinants

Please indicate how much you agree or disagree to the questions regarding perceived economic determinants		Strongly Agree (A)	Agree (B)	Neither Agree nor Disagree (C)	Disagree (D)	Strongly Disagree (E)
26.	I start my business because I and my family were having enough money					
27.	The security conditions are poor					
28.	There is a lack of formal <i>support services</i> by government					
29.	Overall <i>adverse economic</i> situation					
30.	<i>Poor transportation</i> and supply of raw materials					
31.	Too much <i>perceived competition</i>					
32.	Shortage of <i>life necessities</i> like water, electricity and gas etc.					
33.	Unsafe and <i>insecure location</i> of the enterprise					

Q.34 To what extent you think are the following four factors important in making someone a successful entrepreneur? Please rank them in the order where, 1=Very likely, 2=likely, 3=neutral, 4=Unlikely, 5=Very Unlikely.

	Level of response				
	1	2	3	4	5
Economic strength and financial soundness	<input type="checkbox"/>				
Institutional support like tax exemption, security and subsidy	<input type="checkbox"/>				
Cultural support in terms of family, friends, traditions, customs and religion	<input type="checkbox"/>				
Personal competence in terms of innovativeness, risk-taking and competitiveness	<input type="checkbox"/>				


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This Working Paper has been prepared as an output for the Pakistan Strategy Support Program, funded by USAID, and has not been peer reviewed. Any opinions stated herein are those of the author(s) and do not necessarily reflect the opinions of IFPRI.

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