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Factors Explaining the Risk Attitude towards Entrepreneurship in Pakistan: An Exploratory Analysis

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This study empirically identifies factors which explain the attitude of individuals towards entrepreneurship, and how attitudes toward risk influence the likelihood of a person turning entrepreneur. The variable 'fear of failing' serves as a proxy variable reflecting risk aversion, as contained in the dataset compiled by the Global Entrepreneurship Monitor (GEM), through interviews of a sample of 2,007 respondents from Pakistan, in 2010. Given that the dependent variable is of binary nature, the probit model is used to empirically determine as to how various demographic, and perceptual factors influence risk aversion among the country's citizens, particularly in the context of starting their own businesses. The results suggest that personally knowing other entrepreneurs, who have launched a business in the past two years is the most significant variable affecting risk attitudes among Pakistanis; specifically, those who personally know entrepreneurs are more likely to have a fear of failure, with marginal effects as high as 8 percent. Meanwhile, individuals who feel that society generally approves of entrepreneurship as a career choice are around 5 percent less likely to fear failure, though this is a weak correlation. A number of other variables—which are reported in the literature to have significant correlation with risk attitudes in a global context—are not found to be correlated at traditional significance level for Pakistan. In addition, the study does not reveal systematic differences in the risk attitude of individuals hailing from urban and rural areas, or at provincial level. We suggest some preliminary implications based on the findings, and also identify a potential avenue for follow-up research.

JEL Classification: L26; M13; O53
Keywords: Entrepreneurship; Emerging Economy; Risk Aversion

1. INTRODUCTION

The role of entrepreneurship has remained very limited in developing countries like Pakistan due to challenging business environment and inadequate institutional support. The mean firm entry rate in the country, on a yearly basis, compares poorly with counterparts across the globe [GEM (2010)]. Of late, there has been a recognition that Pakistan needs to promote private sector-led development, and entrepreneurship in particular, to drive economic growth. However, very limited empirical research is conducted at microeconomic level to understand the behaviour of local entrepreneurs—and also those who could potentially start new ventures in the near future—due to non-

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availability of required data. Only few studies in the area of entrepreneurship are undertaken, relying primarily on case study approach.

This study will fill the aforementioned gap and shed light on risk behaviour of Pakistani entrepreneurs. As Schumpeter (1934) surmised well ahead of his time, entrepreneurs have the vision and courage to take on the risk inherent in new venture formation, which distinguishes them from non-entrepreneurs. In literature, it has been established those who embrace risk are likelier to engage in entrepreneurial activity, while those who are risk averse tend to favour an employee's career instead [Kihlstrom and Laffont (1979) and Kanbur (1979)]. For Knight (1971), risk-friendly attitudes among the population lead to a diffusion of entrepreneurs—or, in the opposite scenario, a limited role if risk aversion dominates.

Extending the view that possessing wealth plays a role in the decision to launch a startup [Evans and Jovanovic (1989)], Cressy (2000) suggests that as an individuals' wealth increases, his/her risk aversion correspondingly falls, and this becomes a channel facilitating entrepreneurial activity. There are, however, detractors of the risk aversion hypothesis in the context of entrepreneurial decision-making, with Newman (2007) offering an alternative explanation by endogenising risk-taking.

Our study draws on research conducted by Cramer, *et al*. (2002), Ardagna and Lusardi (2008), Gianetti and Simonov (2009) and Sepúlveda and Bonilla (2011). These studies address social interaction, individual traits, and fear of failure. Our approach differs from prior examinations of risk attitude as a precursor to entrepreneurship [Cressy (2000); Van Praag and Cramer (2001); Newman (2007); Parker (2007)], in the sense that we attempt to take a step further back and reveal the underlying factors influencing risk aversion in the first place.

We focus on Pakistan as a developing economy, characteristically exposed to some degree of political instability and law and order concerns, which impact the ease of doing business. Our research benefits from a review of entrepreneurship dynamics in developing economies, especially, for the case of Pakistan [Mir and Nishat (2007); Nadeem and Nishat (2015); Goheer (2003); Shabbir and Gregorio (1996); Ali, *et al*. (2011); Zaidi (2005); Haque (2007); Husain (1999); Lewis (1969); Roomi and Harrison (2010)]. In our view, the above studies do not comprehensively address risk attitudes at individual level in the country; hence, the motivation for our current research.

The rest of the study takes the following approach: Section 2 gives an overview of the data, theoretical framework and econometrics employed; Section 3 discusses the findings, and Section 4 offers concluding remarks.

2. THEORETICAL FRAMEWORK AND EMPIRICAL ESTIMATION

2.1. Data

This study uses a sub-sample of the Global Entrepreneurship Monitor (GEM) dataset, specifically Pakistani data for 2,007 respondents during 2010. The GEM project, launched in 1999 by Babson College and London Business School, has two components: the Adult Population Surveys (APS) consist of interviews of at least 2,000 respondents from a given country, whereas the National Experts Surveys (NES) gather responses from a small sample of experts who have a stake in the entrepreneurship ecosystem. We

utilise data from APS surveys in Pakistan, for 2010, in this study. The APS survey employs a standardised questionnaire. One of the questions specially asks respondents if the fear of failing would prevent them from starting a business. We presume that if someone answers in the affirmative, then they can be deemed to be risk averse, in terms of attitude.

2.2. Econometric Model

Entrepreneurship activity is theoretically supported and empirically tested through various theories. These range from conventional pure exchange closed system to more dynamic systems which capture the complexity of market-based individual activities [Murphy, Liao, and Walsh (2006)]. Among earlier explanations, the Austrian Market Process focused on three main tenets: arbitrage opportunities in the market, the discovery and exploitation of such openings by entrepreneurs, and that ownership can exist independently of the entrepreneur [Kirzner (1973)].

More recent variations, drawing on psychology, lay greater emphasis on the role of personality; for example, how individuals who believe that they have control over their lives and outcomes are more (or less) inclined to take the risk of launching new ventures. Meanwhile, entrepreneurship theory with sociological underpinnings focuses on social networks and relates to entrepreneurial opportunity. Reynolds (1991) contends that the quest to make a worthwhile contribution to society drives entrepreneurship. This contrasts with explanations that draw on anthropology, in which norms and belief systems take a more central focus. For example, Baskerville (2003) highlights the impact of culture on the individual thought process, while North (19990) and Shane (2000) focus on the same with a more specific take on how culture influences behaviour of would-be entrepreneurs.

On the other hand, Drucker (1985) favours conceptualising the entrepreneur as an individual who actively seeks and takes advantage of change; this forms the basis of opportunity-based theories. The ability to be more resourceful than peers also differentiates entrepreneurs from non-entrepreneurs [Stevenson and Harmelling (1990); Davidson and Honing (2003)]. This includes utilising networks, education and experience to understand and exploit opportunities [Becker (1975); Aldrich and Zimmers (1986); Anderson and Miller (2003)].

Based on above theoretical discussion the following model is identified. In sample survey of 2007 respondents, our dependent variable—the question pertaining to fear of failure/risk aversion—is a yes/no binary response variable.

The model is duly specified as follows:

$$frfail_i = \gamma_o + \gamma_1 Age_i + \gamma_2 women_i + \gamma_3 educ_i + \gamma_4 work_i + \gamma_5 discontinued_i + \gamma_6 skill_i + \gamma_7 knowent2_i + \gamma_8 opport2_i + \gamma_9 goodchc_i + \gamma_{10} media_i + \gamma_{11} Teayyopp_i + \gamma_{12}\, urban + \gamma_{13} province + \mathcal{E}i \quad \ldots \quad \ldots \quad (1)$$

Where

frfail is a yes/no response to the query: "Would fear of failure would prevent you from starting a business?",

Age represents the respondent's age,

women is 1 for female respondents, and 0 for men,

educ captures the time respondents have spent acquiring formal education. It consists of the following classifications: no education, some secondary education, secondary degree (base), post-secondary education, and graduate degree,

work is a work status dummy, composed of three categories: "full or part-time work" (base), "not working", and "retired or student",

discontinued dummy takes the value of 1 if the individual has shut down, discontinued or quit a business they owned and managed in the past 12 months,

skill contains the yes/no response to the query, "Do you possess the knowledge, skills and experience required to start a new business?" It captures the individual's self-confidence,

knowent2 is a yes/no response to the question, "Do you know someone personally who started a business in the past 2 years?"

opport2 is yes/no response to the question, "In the next six months, will there be good opportunities for starting a business in Pakistan?"

goodchc is Yes/no response to the claim, "In Pakistan, most people consider starting a new business a desirable career choice"

media is Yes/no response to the statement, "In Pakistan, you will often see stories in the public media about successful new businesses"

Teayyopp is a dummy variable which determines whether the respondent is engaged in opportunity early-stage entrepreneurial activity or not,

urban dummy equals one if the respondent belongs to urban area, 0 if rural,

province dummy represents the fives provinces of Pakistan: Balochistan, Gilgit-Baltistan, Khyber-Pakhtunkhwa, Punjab (base), and Sindh,

$\mathcal{E}$ is a normally distributed disturbance term.

Table 1

Presents the Data Summary

Variable	Observations[1]	Mean
frfail	1762	0.314983
Age	1936	34.11467
women	2007	0.489786
skill	1901	0.566018
educ	1997	0.775664
close	1920	0.028646
knowent2	1925	0.482078
opport2	1726	0.516802
teayyopp	2007	0.048331
goodchc	1805	0.773407
media	1751	0.612793
province	2007	3.990035
urban	2007	0.512207

[1]The number of observations vary for different variables owing to missing values; only observations with non-missing values for all variables in a given model specification were eventually included in probit estimation.

While the implication of mean value for age is straightforward, the interpretation of means for 0/1 dummy variables is not as intuitive. In general, we interpret mean value below 0.5 to signal that majority of respondents answer "no" to the concerned question, whereas mean above 0.5 indicates a greater tendency among respondents to respond positively.

3. DISCUSSION OF RESULTS

First we compute pair-wise correlation matrix for variables of interest (Table 2).

Table 2

Correlation Matrix

	frfail	Age	women	skill	educ	close	knoent2	opport2	Teayyopp	goodchc	media	province	urban
frfail	1												
Age	0.0022	1											
women	-0.0183	-0.1112*	1										
skill	-0.0051	0.0017	-0.1747*	1									
educ	0.0219	-0.1110*	-0.0661*	0.0473*	1								
close	0.0524*	0.0013	-0.0895*	0.0642*	0.0252	1							
knoent2	0.0873*	0.0604*	-0.2852*	0.2474*	0.0538*	0.1104*	1						
opport2	0.0373	-0.0121	-0.2066*	0.2945*	0.013	0.0743*	0.3201*	1					
Teayyopp	0.0188	-0.0261	-0.0888*	0.0953*	0.0612*	0.0523*	0.1240*	0.0865*	1				
goodchc	-0.0405*	-0.0263	0.0590*	0.0995*	-0.026	-0.0366	0.0886*	0.1657*	-0.023	1			
media	0.038	-0.0121	0.0484*	0.0834*	0.0972*	0.0069	0.0502*	0.0412*	0.0329	0.1808*	1		
province	-0.0396*	0.0274	0.0319	0.0490*	0.001	-0.0724*	-0.029	0.0178	-0.2127*	0.1122*	0.0613*	1	
urban	-0.0257	-0.0285	0.0759*	0.0023	0.2944*	0.0410*	-0.0527*	0.007	-0.0729*	0.0995*	0.0965*	0.3269*	1

We observe that, among the perceptual variables, 'knowent2' is positively correlated with the fear of failure, whereas the 'goodchc' variable is negatively correlated. Thus, we anticipate that personally knowing other entrepreneurs might increase the fear of failure, while an individual's belief that wider society approves of entrepreneurship as a career choice would reduce this fear. Prior discontinuation of a startup in the past twelve months also appears to increase the fear of failure/risk aversion.

The result of estimated equation (1) is given in Table 3. Referring to the summary statistics at the bottom of Table 3, we observe that the model accurately classifies nearly 68 percent of observations in each of the four proposed specifications. The first specification is based on demographic variables (Model 1); the second specification includes perceptual variables (Model 2); the third specification includes urban/rural dummy (Model 3); and the fourth specification adds geographical location (provinces) in Model 4.

The standout result of interest across the majority of specifications is that personally knowing entrepreneurs who have launched ventures in the past two years tends to *increase* the likelihood that respondents will identify with a fear of failure, in the context of launching their own start-up. While we anticipated a correlation among these variables from the outset, the direction of correlation is counterintuitive: one expects that personally knowing entrepreneurs would typically provide a role model to look up and emulate, and also the knowledge that these personal connections can be relied on for support and guidance. Perhaps in the case of Pakistanis, respondents personally knew more failed entrepreneurs, rather than successful ones. This would explain a derived fear of failure: respondents may simply be wary of meeting a similar unwanted fate, should they choose to risk launching a start-up of their own. A follow-up study would be required to test this hypothesis, though.

Table 3

Coefficient and Marginal Effect Estimates of Probit for Pakistan

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Model_1	Margin_	Model_2	Margin_	Model_3	Margin_	Model_4	Margin_
Main		fx1		fx2		fx3		fx4
Age	0.00167	0.00059	-0.00025	-0.00009	-0.00014	-0.00005	-0.00018	-0.00006
	(0.541)	(0.541)	(0.936)	(0.936)	(0.964)	(0.964)	(0.955)	(0.955)
Women=1	-0.00347	-0.00123	0.03035	0.01072	0.03736	0.01318	0.03278	0.01155
	(0.958)	(0.958)	(0.708)	(0.708)	(0.646)	(0.647)	(0.691)	(0.691)
No educ.	-0.07055	-0.02535	-0.15912	-0.05796	-0.18130	-0.06598	-0.16145	-0.05856
	(0.541)	(0.545)	(0.220)	(0.228)	(0.170)	(0.178)	(0.230)	(0.238)
Some 2ndry	-0.04869	-0.01759	-0.18832+	-0.06818	-0.19172+	-0.06961	-0.17587	-0.06360
	(0.678)	(0.680)	(0.149)	(0.157)	(0.142)	(0.150)	(0.183)	(0.192)
Post 2ndry	-0.06162	-0.02219	-0.17904	-0.06495	-0.16907	-0.06168	-0.15379	-0.05587
	(0.714)	(0.713)	(0.342)	(0.337)	(0.371)	(0.366)	(0.418)	(0.414)
Grad. degree	-0.14545	-0.05132	-0.13481	-0.04935	-0.11724	-0.04321	-0.10115	-0.03713
	(0.502)	(0.493)	(0.585)	(0.579)	(0.636)	(0.631)	(0.684)	(0.681)
Discontinued=1			0.28446+	0.10560	0.29315+	0.10890+	0.26602	0.09835
			(0.136)	(0.151)	(0.125)	(0.140)	(0.169)	(0.185)
S.UP skill=1			-0.08624	-0.03053	-0.08635	-0.03055	-0.08520	-0.03011
			(0.278)	(0.280)	(0.278)	(0.280)	(0.286)	(0.288)
Know entrepreneurs=1			0.23478*	0.08243*	0.23023*	0.08081*	0.22937*	0.08043*
			(0.004)	(0.003)	(0.004)	(0.004)	(0.005)	(0.004)
Opportunity=1			0.06599	0.02324	0.06778	0.02386	0.07209	0.02535
			(0.408)	(0.408)	(0.396)	(0.395)	(0.368)	(0.367)
Good choice=1			-0.17376^	-0.06258^	-0.16581^	-0.05964^	-0.14728+	-0.05282+
			(0.053)	(0.057)	(0.066)	(0.070)	(0.108)	(0.113)
Media image=1			0.11391+	0.03992+	0.11759+	0.04118+	0.11264+	0.03942+
			(0.137)	(0.134)	(0.126)	(0.123)	(0.146)	(0.143)
teayyopp=1			0.02317	0.00821	0.01033	0.00365	-0.02411	-0.00844
			(0.878)	(0.878)	(0.946)	(0.946)	(0.877)	(0.876)
Urban=1					-0.07096	-0.02504	-0.05778	-0.02036
					(0.361)	(0.361)	(0.485)	(0.485)
Balochistan							0.21793	0.07987
							(0.236)	(0.251)
Gilgit-Balt							0.03323	0.01174
							(0.965)	(0.966)
Khyber-Pakh							-0.01921	-0.00670
							(0.879)	(0.879)
Sindh							0.01949	0.00686
							(0.825)	(0.825)
Observations	1697	1697	1324	1324	1324	1324	1324	1324
Pseudo R-squared	0.000		0.013		0.014		0.014	
Chi-squared	0.94093		21.57339		22.40910		23.93904	
Deg freedom	6.0		13.0		14.0		18.0	
Log LL-hd	-1057.95		-818.68		-818.26		-817.49	
CC proport.	68.41		68.66		68.66		68.58	

Marginal effects; p-values in parentheses

Deg freedom = degrees of freedom, Log LL-hd = Log likelihood, CC proport.=correctly classified proportion

(d) for discrete change of dummy variable from 0 to 1

"+" p<0.15, "^" p<0.10, "*" p<0.05

Another marginal effect which is borderline significant pertains to the 'good choice' variable. Specifically, individuals who feel that entrepreneurship is approved of as a career choice by Pakistani society are around 5 to 6 percent less likely to fear failure (at 10 percent significance level), should they consider launching a new venture. This adds up: societal pressure or acceptance plays a vital role in guiding human behaviour. In some respects, this is reminiscent of the effects of peer pressure.

With respect to the other variables, there is not much to write home about in terms of statistical significance. We are unsure at this point if this is just a peculiar result owing to quality of the data, or whether the dynamics in Pakistan are just systematically different compared to those reported in other countries. As a follow-up to this initial research using data from 2010 (the first year in which Pakistan participated in GEM surveys), we intend to extend the results to GEM 2011 and 2012 surveys as well, in the hope that this would uncover a more robust set of findings.

4. CONCLUDING REMARKS

Given that personally knowing other entrepreneurs has a significant impact on risk aversion, there may be merit in providing more networking opportunities for individuals to meet entrepreneurs, who have recently started up their ventures. Specifically, interaction with more *successful* entrepreneurs might help individuals to revisit their risk averse attitudes to start-up activity.

The finding that societal approval of entrepreneurship (as a viable mode of employment) shapes risk attitudes in Pakistan. It implies that giving recognition and public praise to successful local entrepreneurs might send a strong signal. Essentially, if stakeholders desire to see more entrepreneurs in the long run, they can shape the risk attitude of would-be entrepreneurs to some degree simply by projecting the entrepreneur as a respected, admired citizen, inspiring others to follow suit.

Finally, In terms of the way forward for future research, a value-addition to this current study would be to compare the dynamics of Pakistani entrepreneurs with other countries in South Asia (particularly Bangladesh and India). This would help to tease out both the common ground and the divergence in terms of factors affecting risk attitudes across the region. Also, while this study adopts the cross-sectional approach and is therefore a snapshot at a point in time, it would be informative to employ a pseudo panel approach and observe the dynamics of risk attitude as they evolve over time.

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