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The Socioeconomic Determinants of Urban Poverty in Saudi Arabia

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Abstract

This paper presents results from one of the first independent socioeconomic household surveys to study urban poverty among Saudi nationals. This survey was administered to 496 Saudi households in Dammam in 2019. Poverty is conceptualised as relative poverty, which is based on the country's inflation adjusted national poverty line of $6 per person per day. The methodology is based on the Foster-Greer-Thorbecke (FGT) poverty index, which is used to analyse the socioeconomic determinants of the prevalence, intensity, and severity of poverty. The results indicate that education and unemployment are crucial determinants of poverty outcomes. In addition, large family sizes combined with the tradition of having a single breadwinner also pushes households into poverty. Female-headed households are particularly vulnerable. Furthermore, social capital positively impacts the welfare of households, whereas being of African descent has a negative influence. However, health, personal attitudes, and being of Bedouin origin are not significant variables in the model. The social welfare system is able to mitigate some of the disadvantages, but not all. Overall, approximately one third of poor households are being lifted out of poverty by social welfare payments.

JEL Codes: O12, I32

Keywords: Arab World, Social Exclusion, Urban Poverty, Poverty Determinants, Poverty Gap

1. Introduction

The discovery of oil in the 1930s transformed Saudi Arabia from one of the poorest countries in the world into one of the richest. Since then, the authorities have been generous in their distribution of oil wealth. Two-thirds of the population are employed in public sector jobs, and both health care and education are provided to citizens at no cost (Hertog, 2016). However, economic prosperity has not improved the lives of all nationals equally. This is not surprising, as many studies have emphasised that economic growth alone is not sufficient to eliminate or reduce poverty (e.g. Gupta, Pouw, & Ros-Tonen, 2015; Stiglitz, 2016). However, poverty in Saudi Arabia has received little attention. If at all, poverty in Saudi Arabia has been primarily associated with expatriate workers from low-income countries (Sherry, 2004; Al Ghamdi, 2014). Quantifying the scale of poverty in the country is a challenging task, as regular official statistics on poverty have not been published. The latest official statistics state that 19% of Saudi nationals lived in poverty in 2005 (Bin Saeed, 2008). This was based on the official poverty line at that time, which was 500 Saudi riyals (SAR) per person per month ($4.4[1] per person per day). More recent independent sources have estimated that around 20% of Saudi nationals are living in poverty (Sullivan, 2013; Koontz, 2015).

Given the magnitude of poverty in Saudi Arabia, in 2002 the government implemented a coherent strategy to reduce levels of poverty. This included the establishment of the National Fund for Poverty Eradication which provided financial and non-financial support to poor households (Al Rushaid, 2010). The fund no longer exists in its original form and no other government programme is labelled as poverty reduction. Instead, the fund was replaced with a broader catalogue of social welfare measures consisting of financial support from both the government and charitable organisations. In the Saudi fiscal year 2018/2019, the Ministry of Labor and Social Development granted social welfare payments to 1.3 million citizens, spending a total of 36 billion SAR ($9.6 billion) (Saudi Ministry of Labor and Social Development, 2019). The social welfare catalogue includes programmes for which any citizen below a certain income level is eligible, as well as programmes that target specific groups such as female-headed households, disabled people, and the elderly. In addition, public charities are estimated to make payments to half a million citizens each year, with an estimated annual

[1] All currency transformations in this article are based on the country's fixed market exchange rate of 3.75 SAR per US dollar. This is based on the notion that the official purchasing power parity (PPP) exchange rate does not accurately reflect purchasing power.

spending of around 2 billion SAR ($0.53 billion), (Saudi Ministry of Labor and Social Development, 2017).

The government's commitment to fighting poverty was reaffirmed in 'Vision 2030' (Kingdom of Saudi Arabia, 2016). This is an ambitious reform package aimed at diversifying the economy away from oil and creating a modern society. It includes the goal of providing the most marginalised citizens with the necessary support. Given the emerging changes in the economic and socio-political system in Saudi Arabia, poverty should be viewed as a fundamental matter that merits further academic attention.

To date, only a small number of relevant publications have focused on poverty in Saudi Arabia. Most are unpublished Arab-language works that provide descriptive statistics on the demographic backgrounds of poor households. These studies have found that the heads of poor households have limited or no education, with reported illiteracy rates among low-income Saudi households ranging from 8% to 56% (Al Qahtani, 2004; Al Shubaiki, 2005; Bin Said, 2007; Al Nuaim, 2010; Al Arwan, 2011; Al Damag, 2014; Efad Center, 2014). In addition, the literature has reported high unemployment rates, large family sizes, and high percentages of internal migrants among those living in poverty in Saudi Arabia (Al Qahtani, 2004; Al Shubaiki, 2005; Bin Said, 2007; Al Nuaim, 2010; Al Arwan, 2011; Al Damag, 2014). There are also indications that female-headed households are more vulnerable to poverty due to the traditional role of women in Saudi society (Fadaak, 2010; Al Anzi, 2013; Efad Center, 2014). Interviews with poor people in Riyadh by Al Qahtani (2004), Al Shubaiki (2005). and Al Nuaim (2010) identified further potential reasons for poverty, namely old age, sickness, disability, the traditional single breadwinner family, drug abuse, and over-indebtedness.

However, a limitation of the above findings is that the studies mainly provided descriptive statistics of poor households without making any comparison with non-poor households. Therefore, the present research sought to address this limitation by developing a logistic regression model that compares the characteristics of poor and non-poor households. The objective was to determine the causes of poverty among Saudi nationals. To achieve this goal, two research questions are addressed: first, why are households not generating enough income by themselves and, second, how effective is the social welfare system in lifting Saudi nationals out of poverty? The remainder of the article is structured as follows. Section 2 presents the conceptual framework for poverty in Saudi Arabia, while section 3 describes the methodology employed. Section 4 introduces the sample and the data, with the research findings presented

and discussed in section 5. Finally, section 6 draws a conclusion and discusses policy implications.

2. Conceptualising Poverty in Saudi Arabia

One of the most common employed definitions of poverty in development economics is the poverty headcount ratio, in which a household is classified as poor when its income falls below a defined poverty line (Sen, 2006). If the poverty line is set at the level where households are only able to maintain basic living standards (such as food, shelter and clothing) then the household is said to live in absolute poverty (Ravallion, 2013). The World Bank currently puts the international line of extreme poverty at $1.9 per day per person. According to this standard, no one in Saudi Arabia is 'poor'. The annual reports on the Millennium Development Goals (Saudi Ministry of Economy and Planning, 2014) states that absolute poverty has been non-existent in Saudi Arabia since 2011.

An alternative concept to absolute poverty is relative poverty, where the poverty line is based on the average living standards in a country and, therefore, varies by nation (Foster, 1998). Selecting an appropriate relative poverty line for Saudi Arabia is challenging as no recent official poverty statistics exist. Nevertheless, a national poverty line has been defined in the past, although it has not been officially adjusted since 2005. According to Bin Saeed (2008), the Ministry of Labour and Social Development was working on the basis of a poverty line of 500 SAR per person per month ($4.4 per person per day) in 2005. However, that poverty line may no longer be reasonable, as it has not been adjusted for inflation. Between 2005 and 2019, the Consumer Price Index increased by 36% (General Authority for Statistics [GASTAT], 2019a). Adjusting for inflation results in a poverty line of 700 SAR per person per month for 2019, which is equivalent to $6.2 per person a day.

In addition to the national poverty line, independent studies have sought to identify an appropriate poverty line based on household minimum living standards inside Saudi Arabia. Al Shubaiki (2005) proposed a poverty line of 769 SAR per person per month for 2005, which would translate into an inflation-adjusted rate of 1,046 SAR per person per month for 2019 ($9.8 per day per person). Al Damag (2014), however, suggested that the poverty line should be set as high as 919 SAR per person per day.

A common international definition of relative poverty is an income 50-60% below the country's median/average income. Based on the average and median income of Saudi nationals (GASTAT, 2018), the poverty line would therefore range between 860 SAR and 1370 SAR.

In the following analysis, the national inflation-adjusted poverty line of 700 SAR is used as this is thought to be closest to how Saudi authorities interpreted poverty. However, Table B.2 in the appendix presents robustness tests of variations in the poverty line.

A shortcoming of the above-described poverty headcount measures is that they do not consider how far a household's income is below the poverty line. Therefore, in this study, we also present results for the poverty gap (Foster, Greer and Thorbecke, 1984), which gives higher weight to poorer households.

3. Methodology

3.1. Methods

The causes of poverty are studied by examining household welfare as a function of household characteristics. In this research paper, income is selected as the key indicator for household welfare. There are two reasons for this. The first is that income can be split by its sources, allowing a distinction to be made between welfare generated by the households themselves and welfare received in the form of social welfare payments. The second reason is that most poor households in our sample had relatively few sources of income, as the majority of income was received in the form of monthly wages or government payments (see Table 2). Therefore, due to a lack of records, household heads were more aware of their income than, for example, their consumption expenditure. Thus, we use income as the welfare indicator.

To measure poverty, we apply the Foster-Greer-Thorbecke poverty index FGT (Foster, Greer and Thorbecke, 1984). The index can be mathematically expressed as follows:

$$(1) \quad FGT_{\alpha} = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-y^{*}_{i}}{z}\right)^{\alpha}$$

where N is the population size, q is the number of households below the poverty line, z is the poverty line, y^{*}_{i} is the income of households below the poverty line, and α is a 'poverty aversion' parameter. If α = 0, the FGT index measures the poverty head count ratio; if α =1, the FGT index assesses the depth of poverty; and if α = 2, the severity of poverty is calculated.

To identify the reasons why households are not able to generate a sufficient income themselves, all three models are being studied (α = 0, 1 and 2). The first model is a binary logistic regression model in which the sample is separated into poor and non-poor households, based on the gross per-capita income per household without social welfare payments. The binary variable Y is equal to 1 if a household's per-capita income is below the poverty line of 700 SAR per-capita per month, otherwise it is 0. The resulting binary logistic regression model can be formulated as follows:

(2) $$P(Y_i = 1) = \alpha + \beta_1 demoghraphics + \beta_2 human\ capital + \beta_3 ethnicty + \beta_4\ economics + \beta_5 health + \beta_6 social\ capital + \beta_7 personal\ attitudes + \varepsilon_i$$

The second model is a Tobit model used to analyse the FGT poverty gap, as employed in Akerele et al. (2012), Asogwa, Okwoche and Umeh (2012), Duniya and Rekwot (2015) and Woldie, Haji and Mehare (2020). The dependent variable, 'poverty gap', is equal to 0 if the household's gross per-capita income excluding social welfare is above the poverty line (Z) of 700 SAR, otherwise it is $PG = (Z - Y)/Z$. The Tobit regression model can be expressed as follows:

(3) $$PG_i = \alpha + \beta_1 demographics + \beta_2 human\ capital + \beta_3 ethnicity + \beta_4\ economics + \beta_5 health + \beta_6 social\ capital + \beta_7 personal\ attitudes + \varepsilon_i$$

The final model uses the squared poverty gap as the dependent variable. Because the index gives more weight to the poorest households, it can provide information on what would have to be done to help the poor out of the most severe level of poverty.

(4) $$PG_i^2 = \alpha + \beta_1 demographics + \beta_2 human\ capital + \beta_3 ethnicity + \beta_4\ economics + \beta_5 health + \beta_6 social\ capital + \beta_7 personal\ attitudes + \varepsilon_i$$

3.2. Model Specification

Household Demographics

This section describes the independent variables used in the regression models. The first set of variables are related to the demographics of the household, as differences in these have been widely found to cause variations in income (Pestieau, 1989; Lam, 1997). Most models explaining differences in social welfare at the household level include variables related to age, household composition, and education (e.g. Coulombe & McKay, 1996; Mukherjee & Benson, 2003; Amuedo-Dorantes, 2004; Mok, Gan & Sanyal, 2007; Rupasingha & Goetz, 2007; Achia,

Wangombe & Khadioli, 2010; Sekhampu, 2013; Tran, Tran, & Nguyen, 2020). In addition, some models also consider the gender and marital status of household heads and a variable related to race or ethnicity (see, for example, Achia, Wangombe & Khadioli, 2010; Sekhampu, 2013; Tran, Tran, & Nguyen, 2020).

The model used to study poverty in Saudi Arabia therefore includes the age, gender, and years of education of the household head, the average years of education of the adult household members, and several variables related to household composition and ethnicity. Specifically, six variables describe the household composition, of which the first four are related to household size. Following Mukherjee and Benson (2003) and Mok, Gan and Sanyal (2007), the variable household size is split by age group and gender. The first variable measured the number of children in the household. For this purpose, all members below the age of 19 are classified as children, as household members rarely start to generate an income before that age.[2] The next two variables describe the number of male and female adult household members (ages 19-60). The reason for splitting the variable by gender is because in the traditional Saudi context, male and female household members have very different roles in the household. The final variable related to household size is the number of elderly household members. Elderly people are defined as household members above 60 years of age, as 60 is the official retirement age in Saudi Arabia. A further variable used to describe household composition is the number of additional dependants outside the current household. Additional dependants commonly include parents, siblings, children, or additional wives. Moreover, the model incorporates a dummy variable measuring whether the household head has multiple wives. Given that there is just one household in the sample with more than two wives, this variable is not categorical.

Ethnicity

The model captures differences in ethnicity through two variables. The first is a dummy variable indicating whether a household is of Bedouin origin. The Bedouins (nomads) traditionally moved through the desert with their sheep, camel, and/or goat herds, and are known for their strong tribal ties. Over the last 100 years, most Bedouins have settled down (Uthaymin, 1986); however, being of Bedouin origin has become a form of ethnic identity within Saudi society.

[2] In the research sample, only 0.1% of the household members below the age of 19 earned an income.

The second ethnic variable is being of African descent. Several waves of migration have taken place that involved Africans arriving in the Gulf. First, Africans arrived as Muslim pilgrims in medieval times (Lewis, 1992). Following this, in the 18th century the Ottoman Empire started bringing African slaves to Saudi Arabia (Lewis, 1992). This continued until slavery was abolished in 1962. Since then, large waves of migrant workers have been arriving in the Gulf since the 1980s (Fernandez, 2011; Flahaux & De Haas, 2016). The dummy variable African descendant is based on the skin colour of the household head. Culturally speaking, being of African descent is a sensitive topic in Saudi Arabia, and one which people do not discuss as some of the African-Arabs are former slaves and descending from a slave can be viewed as shameful in society.

Economic Factors, Social Capital, and Health

In addition to demographic factors, a growing body of literature stresses the importance of economic and social factors as well as health in explaining income inequality (Wagstaff, 2002; Rupasingha & Goetz, 2007; Weaver & Habibov, 2012). Hence, the regression model for poverty in Saudi Arabia includes the employment status and health of the household head and household members. Social capital, as described by Collier (2002), refers to externalities that arise from human interactions. In Saudi Arabia, most social capital is provided by the immediate and extended family, with strong family connections forming an integral part of Arab society. The tribal system in Arab regions has existed for several thousand years and remains a firmly anchored component of modern society in these areas. Alongside specific behaviour patterns, the tribal system is also associated with a strong sense of collective support (Cooke, 2014; Tannous, 1947). Therefore, the model includes a variable describing the family connections of the household head. In this research household heads were asked to rank their family connections on a five point Likert scale ranging from ‘we are very close’ to ‘we are not in touch at all’. The assumption is that strong family connections should provide a safety net in case of hardship.

Personal Attitudes

Finally, the model includes two variables relating to the risk and time preferences of households. More recent literature has indicated that living in poverty causes stress and anxiety, which in turn makes individuals more risk averse and impatient (Haushofer & Fehr, 2014). However, this can foster economic decision making that hinders households’ prospects of escaping poverty (Tanaka, Camerer, & Nguyen 2010). For instance, risk averse and impatient

people might invest less in human capital and health, save less, and be less likely to become an entrepreneur. Risk and time preferences were measured through two survey questions asking household heads to provide a global assessment of their willingness to take risks and give up something now in order to gain more in the future. This method has proven to be an effective measure of risk and time preferences and has been applied in many studies (e.g. Dohmen et al., 2011; Gloede, Menkhoff, & Waibel, 2015). Having laid out the parameters of the regression model used for poverty in Saudi Arabia, the next section will provide more detailed information on the variables included in the model.

4. Data and Descriptive Statistics

4.1. Data Collection

The data used in this paper originates from a socio-economic household survey[3] conducted in Dammam, the largest city in the Eastern province of Saudi Arabia. The city has low-income neighbourhoods which are typical of urban poverty in Saudi. The majority of poor households are based in the large metropolitan cities, namely Riyadh, Jeddah, Makah, Medina and Dammam (Al Damag, 2014). Dammam was chosen due to the legal, cultural, and logistic feasibility of accessing the study population.

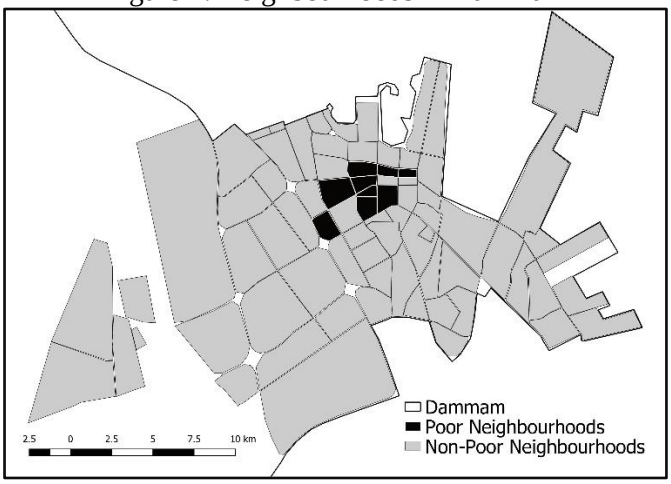
To select an appropriate sampling strategy for the main household survey, we first had to identify the distribution of poverty across Dammam. We therefore split the city into neighbourhoods based on data obtained from Google Maps. Through informal interviews with local community members, it became apparent that the poor neighbourhoods were well known among the local community. They were referred to as the 'old neighbourhoods' and are located in central Dammam. However, it was difficult to scientifically exact the location of the poor neighbourhoods. Therefore, to create a detailed poverty map, we relied on insider knowledge from local charity managers. We found that there were 78 neighbourhoods in Dammam, of which nine were identified as neighbourhoods where many poor Saudi households live. The results are summarised in Figure 1.

Because the emphasis of the research was on poor urban Saudi households, we selected all nine neighbourhoods characterised as poor for the survey. Within each neighbourhood, we identified the dwellings through satellite images. We then randomly selected Saudi households

[3] In fact, this may be one of the first research-based household surveys in SA

via systematic sampling, whereby every tenth dwelling was marked to be interviewed. As the target population of this research was Saudi nationals, dwellings occupied by foreigners were excluded. Therefore, if an enumerator came across a household occupied by foreigners, they moved on to the next marked dwelling without conducting the interview. In total, 496 households were interviewed. The advantage of this sampling technique was that the resulting data provided a representative sample of poor Saudi households in these neighbourhoods, with more households selected in larger neighbourhoods and more households interviewed in neighbourhoods with a larger Saudi population. However, it should be noted that the oversampling of poor Saudi households and the exclusion of foreigners means the selected sample is not a representative sample of the entire population.

Figure 1: Neighbourhoods in Dammam



Source: Own data

The household survey itself was administered on tablets using an app called Survey Solutions, which was designed by the World Bank. The design of the questionnaire was based on the detailed 2017 questionnaire developed by the *Thailand–Vietnam Socioeconomic Panel* (www.tvsep.de). However, it was crucial to tailor the questionnaire to the Saudi context. To achieve this, a mixed-method pre-study was conducted in 2018. This comprised two parts. In the first part, a quantitative survey was conducted with managers of charity organisations who were deemed experts in the field. In the second part, 36 qualitative interviews with poor households were conducted to gain in-depth insight into the current and historical circumstances of households living in relative poverty. The results from the pre-study helped tailor the questionnaire to the Saudi context.

4.2. Descriptive Statistics

Household Demographics and Ethnicity

This section provides an overview of the descriptive statistics of the research sample (see Table 1). Starting with demographics, households in the sample had, on average, 6.5 household members compared to the national average of 5.8 members (GASTAT, 2017). A more detailed breakdown of the population pyramid can be found in Figure A.1 in the appendix. Moreover, 14% of the households were female-headed. Of these, 41% of female heads were widowed, 26% divorced, 13% abandoned (separated without legal divorce), and in 11% of cases the husband was in prison.

Despite the perceptions of some people, it was rare for men to have more than one wife, with only 3.3% of the married men having a second wife (2% of households) and only 0.3% having a third wife. No household had the maximum permitted number of four wives. In terms of ethnicity, 43% of the household heads classified themselves as Bedouin and 18% were of African descent. It is important to note that the two ethnic groups are not exclusive. An individual can be of both African descent and Bedouin.

Human Capital

Regarding human capital, the average household head went to school for seven years. Household members[4] had, on average, eight years of schooling. Among the household heads, 24% had no formal education, 27% had only completed primary school, 20% had finished high school, and 10% held a higher degree of education (i.e. bachelor or diploma). Examination of educational level by age group reveals that the number of years spent in education has increased enormously, from three years for people born in the 1950s to 11 years for people born in the 1990s. The reason for that is that formal education is relatively new to Saudi Arabia. Although the first government department for education was established in 1926, it was not until the 1950s that education became more broadly accessible due to funding from oil revenues (Al Rawaf & Simmons, 1991). At first, education was only for men. Female education formally started in the 1960s; however, it took another 30 years for female education to become widely accepted, as many parents were initially sceptical due to the traditional role of women in the local culture (Al Rawaf & Simmons, 1991). Nowadays, education is provided to both genders free of charge and students at public universities even receive a monthly stipend of around 1,000 SAR ($267) per month.

[4] Throughout the article, the terminology 'household members' excludes the household head.

Table 1: Descriptive Statistics of the Variables

Variable	Description	Mean	Std. Dev.
Household Demographics			
Age of Household (HH) Head	Age in Years	48.44	13.96
Gender of HH Head	Dummy: 0=Male, 1=Female	0.14	0.35
HH Members (including Head)	Number of HH Members	6.46	3.37
Members (Ages 0–18)	Number of HH Members	2.63	2.45
Male Members (Ages 19–60)	Number of HH Members	1.05	1.47
Female Members (Ages 19–60)	Number of HH Members	1.63	1.33
Members (Ages 60+)	Number of HH Members	0.14	0.36
Dependency Ratio	Dependency Ratio	1.09	1.05
Additional Dependants	Number outside HH	0.37	1.32
Multiple Wives	1=More than 1 Wife, 0=Otherwise	0.02	0.15
Ethnicity			
Bedouin	Dummy: 1=Bedouin, 0=Non-Bedouin	0.43	0.50
Africa Descent	Dummy: 1=African Descent, 0=Otherwise	0.18	0.39
Human Capital			
Years of Education HH Head	Years of Schooling	7.27	4.88
Head No Formal Education	Dummy: 1=Yes, 0=Otherwise	0.24	0.43
Head Primary School	Dummy: 1=Yes, 0=Otherwise	0.27	0.45
Head Secondary School	Dummy: 1=Yes, 0=Otherwise	0.18	0.38
Head High School	Dummy: 1=Yes, 0=Otherwise	0.20	0.40
Head University	Dummy: 1=Yes, 0=Otherwise	0.10	0.31
Average Years of Education Adult HH Members (Ages 19-60)	Average Years of Schooling	8.26	4.66
Economic Factors			
Head Unemployed	Dummy: 1=Yes, 0=Otherwise	0.09	0.29
Head Employed by the Military	Dummy: 1=Yes, 0=Otherwise	0.09	0.28
Head Employed by the Public Sector	Dummy: 1=Yes, 0=Otherwise	0.12	0.32
Head Employed by the Private Sector	Dummy: 1=Yes, 0=Otherwise	0.25	0.43
Head Self-Employed	Dummy: 1=Yes, 0=Otherwise	0.09	0.29
Head Non-Labour Force	Dummy: 1=Yes, 0=Otherwise	0.36	0.48
Share of HH Members Employed	Share of HH Members	0.14	0.21
Health			
Head Unhealthy	Dummy: 1=Unhealthy, 0=Healthy	0.08	0.28
Number of HH Member Unhealthy	Number of HH Members	0.17	0.43
Social Capital			
Family Relationships	1=We are Very Close 2=We are Close 3=We are neither Close nor Not Close 4=We are Not So Close 5=We are Very Not Close 6=We are Not in Touch at All	2.04	1.14
Personal Attitudes			
Risk Taking	Scale: 0–10; 0=Unwilling to Take Risk, 10=Fully Prepared to Take Risk	3.91	3.54
Patience	Scale: 0–10; 0=Unwilling to Wait and 1=Fully Prepared to Wait	4.66	3.87
Household Finance			
HH Income Excluding Social Welfare	Gross Per-Capita Income in SAR	1108 ($295)	1101 ($294)
HH Income Including Social Welfare	Gross Per-Capita Income in SAR	1320 ($352)	1075 ($291)
HH Consumption	Per-Capita Consumption in SAR	1060 ($283)	671 ($181)
Share of Indebted HHs	Share of HH	0.38	
Debt Service Ratio	Loan Payments/Gross Income	0.24	0.16
Share of HH with Savings	Share of HH	0.10	
Amount of Savings	Average Amount in SAR	67,071 ($17,886)	107,994 ($29,188)

Source: Own socioeconomic household survey

Another observation is that the educational level of poor households in the research sample trailed behind the national average across all age groups (GASTAT, 2017). Across people born in the 1950s, the difference in number of years spent in education between the poor in the research sample and Saudi Arabia as a whole was relatively small – two years. However, the gap increased to seven years for people born in the 1980s. The fact that poor households receive less education holds true for both genders. For a more detailed breakdown of household education level by age group, see Figure A.2 in the appendix.

To comprehend this lack of education, households were asked to give their reasons for dropping out of education. Common causes across all age groups and gender were disliking education (25%), bad grades (8%), and being unable to afford the school supplies (11%). In addition, the household heads of older generations reported that there was no school when they were young (7%). Moreover, in the past, getting married was a major reason for women to leave education. Of the females born before the 1980s, 42% mentioned this as a reason, compared with only 5% of women born after 2000. Men born after 2000 seem to struggle with health and disability as 25% stated this as a reason for leaving education, while only 1% of the men born before the 1980s did so. The actual health situation of men is unlikely to have changed dramatically, especially as the problem does not seem to be common among females born after 2000 (only 5% mentioned it as a reason). Hence, it could be argued that this is simply a socially acceptable 'excuse' used by men for dropping out of school. Further research would be needed to interpret these results in more depth.

Economic Factors

Analysis of the economic characteristics of households reveals that public sector jobs paid the highest salaries. Household members employed in the public sector (excluding the military) received, on average, a salary of 6,044 SAR ($1,612) per month. Among public sector jobs, the military sector paid the highest salaries as a risk premium was included, with household members in military occupations being paid 7,864 SAR ($2,097). By contrast, self-employed household members received the lowest average monthly income of 3,071 SAR ($819). Private sector employees earnt 4,664 SAR ($1,238) on average. Moreover, 9% of household heads classified themselves as unemployed (looking for a job) and 36% reported being in the non-labour force. The latter primarily consisted of retired heads and female heads who did not want to work.

In 55% of households, the head was the sole breadwinner. It was rare for wives to work. In 88% of the male-headed households, the wife was not in employment. Furthermore, female household members in general were much less likely to be in employment. For instance, whereas 46% of adult male household members (ages 19-60) were employed, only 16% of adult female members (ages 19-60) were in employment. The self-reported rate of unemployment among all adult household members (ages 19-60) was 54%. For comparison, the official unemployment rate in Saudi Arabia stood at 12.5% in the first quarter of 2019 (GASTAT, 2019b).

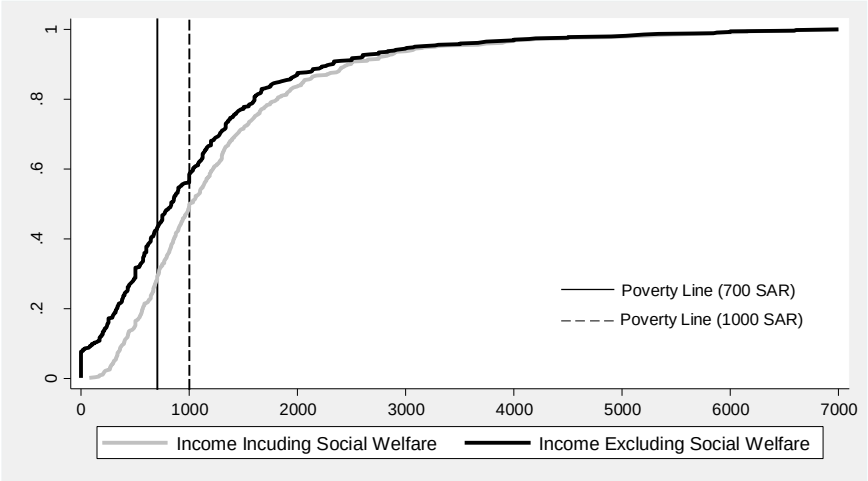
Health, Social Capital, and Personal Attitudes

Overall, 8% of household heads were categorised as unhealthy (defined as being disabled or sick for more than 1 month in the last year, and having a level of sickness or disability which caused major limitations in completing daily tasks). In terms of social capital, on average household heads had a close relationship with family members living outside the household. Moreover, household heads described themselves as relatively unwilling to take risks and slightly unwilling to wait. A more detailed breakdown of the risk and time preferences of household heads is presented in Figures A.5 and A.6 in the appendix.

Household Finance

The financial situation of the households showed that, on average, their gross monthly per-capita income was 1,320 SAR ($352). This was calculated from the total annual gross income of the household. The latter includes all income received from employment, the government, charity organisations, friends or family members, 'good people' (a local term referring to private individuals who give donations to the poor, often anonymously) and in-kind donations. It is important to note that because there is no income tax in Saudi Arabia, gross income can be interpreted as income after taxes and subsidies. Excluding all the income and in-kind donations received from social welfare payments, the gross monthly per-capita income excluding social welfare declines to 1,108 SAR ($299). Figure 2 presents the cumulative frequency distributions of household income with and without social welfare payments.

Figure 2: Household monthly gross per-capita income



Source: Own socioeconomic household survey

Furthermore, on average, households received 23% of their income or 212 SAR ($56) per person per month from social welfare payments. These are payments made by the citizens account programme, traditional social security, and charity organisations (for more details see Table 3). Female-headed households were more heavily reliant on social welfare, with 48% of their income coming from social welfare. Moreover, the percentage of total income from social welfare declined with rising income. However, it appears that even households belonging to the Saudi middle class received social welfare payments (Table 2).

Table 2: Sources of household income by gender and income quintile

Percentage of Total Income	**Total**	**Gender**		**Income Quintile**				
	All Households	Male Headed	Female Headed	Lowest	Second	Third	Fourth	Highest
Wages	0.48	0.53	0.20	0.26	0.38	0.52	0.60	0.65
Business	0.08	0.08	0.08	0.16	0.10	0.06	0.02	0.06
Pension	0.15	0.17	0.07	0.10	0.17	0.17	0.18	0.15
Remittances	0.03	0.01	0.16	0.07	0.04	0.01	0.01	0.02
Hafiz[5]	0.002	0.002	0.000	0.001	0.000	0.003	0.002	0.002
Student Allowance[6]	0.02	0.02	0.02	0.01	0.02	0.02	0.03	0.01
Social Welfare Payments								
Social Security	0.08	0.05	0.25	0.07	0.11	0.09	0.06	0.05
Citizens Account[7]	0.12	0.12	0.14	0.26	0.14	0.10	0.08	0.03
Charity Organisation[8]	0.03	0.02	0.09	0.08	0.04	0.01	0.01	0.01

Source: Own socioeconomic household survey.

[5] Hafiz is a programme targeting young Saudis struggling to find a job. It provides financial assistance of up to 2,000 SAR ($533) per month for initially one year.

[6] Saudi students receive around 1,000 SAR ($267) per month depending on the subject regardless of income.

[7] The citizens account programme was released in December 2017 to offset the negative impact of rising fuel, water and electricity costs as well as the newly imposed VAT, on low-income households.

[8] Most of the charity organisations are public charities financed through donations and public funds. Therefore, they can be seen as part of the social welfare programme.

Most of the households (90%) did not have any savings and were living from 'paycheck to paycheck'. Figure A.4. in the appendix reveals that even higher income households tended to have no savings at all. Conversely, 38% of households were in debt. The most common reasons for households taking out a loan were to buy a car, purchase furniture, and cover the costs of marriage. Of the in-debt households, 6% could be described as over indebted, with a debt to service ratio above 50%. A detailed breakdown of the household debt service ratios can be found in Figure A.3 in the appendix.

5. Model results and discussion

This section first analyses the factors that are likely to hinder households from generating an income above the poverty line. Thereafter, it examines the ability of the social welfare system to lift households above the poverty line. Finally, the analysis considers the depth and severity of poverty.

5.1. Determinants of the Poverty Head Count Ratio

Household Demographics

The poverty head count ratio model presented in Table 3 examines why a household income without social welfare payments is below the poverty line. The results of the regression models suggest that demographic***s*** play a vital role in explaining the variation in poverty outcomes. Household composition, age, gender, and ethnicity are all statistically significant. The following discussion addresses each of these components. In general, almost all household members constituted a burden for the household. Splitting the variable ***household size*** by age group revealed that each additional child and each additional male or female household member increased the likelihood of the household being poor. The reason for this is that most of the adult household members are unemployed.

In general, once an adult male in Saudi culture has his own income, he will, in all likelihood, move out of his parents' household to marry and form his own household; hence there is only a short period of time during which male adults are employed and part of the household. During this period, they save up money for a dowry and other marriage expenses. Culturally, women are not supposed to live by themselves – they are expected to live with a male relative. A woman's ability to leave her parents' household thus depend on her marriage prospects. However, divorced women are not popular in the marriage market, especially if they have children. Further, if a female household member does not get married before the age of 30, she

might be too old to find a husband and thus have to live with a male relative for the rest of her life. Hence, female household members consist not only of grown-up children but also wives, sisters, aunts, or cousins who are divorced or have never married.

By contrast, the number of ***elderly household members*** had no significant effect on household income. These household members were often the parents of the household head. Some elderly household members received a pension or widow benefits from the government, while others were fully dependent on the household head. There could also be a reverse causality, as household heads with higher income are more likely to take care of their parents. One could also argue that having multiple wives would be a particular financial burden for the household head. However, it transpired that having ***multiple wives*** was negatively correlated with poverty. One explanation for this could be that only wealthier household heads have additional wives. Alternatively, it could also be that having multiple wives increases the pressure on the male household head to provide a sufficient income.

The ***age*** of a household head is often interpreted as a proxy for his/her work experience. As expected, it reduced the household's likelihood of being poor, as older individuals tend to have more work experience and hence receive higher salaries. Age square was positive, indicating that the benefits from additional work experience are higher for younger individuals than for older individuals, the latter of whom already have a substantial amount of work experience.

Female-headed households are often disadvantaged because society allocates them the role of mother and caretaker of the house; hence, they have less access to resources such as education. Saudi Arabia, with its traditional Islamic culture, is arguably no exception. Even after adjusting for differences in education (alongside other factors), female-headed households' risk of being poor was 30 percentage points higher than that of male-headed households. In Saudi Arabia, women are not supposed to live by themselves without a male household head. Therefore, for a woman to become head of the household, female-headed households have usually experienced some form of a shock. Such shocks include divorce, being abandoned, death of the household head, the household head being in prison, or the household head being sick, disabled, or addicted to drugs.

Ethnicity

Regarding ethnicity, the results indicate that identifying oneself as Bedouin had no significant influence on poverty. However, the findings did suggest that people of African descent were more likely to be poor. One could theoretically argue that this is due to some form of

discrimination in society; yet there is no evidence of such discrimination in contemporary Saudi society. Hence, it appears more likely that historic disadvantages are continuing to influence African descendants. It should be noted, however, that the findings are not entirely robust to changes in the poverty line (Table B.2, Appendix).

Table 3: Logit model estimates of the poverty head count ratio

	Coefficient	**Std. Error**	**Marginal Effects**
Household Demographics			
Age of Household (HH) Head	-0.177***	0.060	-0.042***
Age of HH Head ^2	0.002***	0.001	0.0004***
Gender of HH Head	1.219***	0.441	0.296***
Members (Ages 0–18)	0.504***	0.076	0.120***
Male Members (Ages 19-60)	0.423***	0.127	0.101***
Female Members (Ages 19-60)	0.437***	0.134	0.104***
Members (Ages 60+)	-0.016	0.430	-0.004
Multiple Wives	-2.629**	1.288	-0.359***
Additional Dependants	0.104	0.107	0.025
Ethnicity			
Bedouin	-0.089	0.271	-0.021
African Descent	0.654*	0.368	0.160*
Human Capital			
Years of Education HH Head	-0.233***	0.037	-0.055***
Average Years of Education Adult HH Members (Ages 19-60)	-0.094***	0.035	-0.022***
Economic Factors			
Head Unemployed	2.575***	0.588	0.534***
Share of HH Members Employed	-6.755***	1.163	-1.610***
Health			
Head Unhealthy	0.099	0.503	0.024
Number of HH Member Unhealthy	0.160	0.361	0.038
Social Capital			
Family Relationships	0.251**	0.122	0.060**
Personal Attitudes			
Risk Taking	0.031	0.040	0.007
Patience	-0.0004	0.036	-0.0001
Observations	496		
Pseudo R^2	0.461		

Note: * P<0.10, ** P<0.05, *** P<0.01.

Human Capital

Education is one of the leading factors explaining the differences in income. Each year of education accrued by the household head reduced the probability of being poor by 5.5 percentage points. In addition, a household with higher educated members was also correlated with lower poverty. This is why it is particularly concerning that poor households are not able to provide their children with as much education as wealthier households. As outlined in the descriptive statistics, the average years of education accrued by people living in poor households is below the national average.

Economic Factors

Economic causes of poverty also explained a large proportion of the differences in income. The single most devastating factor was the household head being unemployed. Such a household was 53 percentage points more likely to be poor. Another concern was the lack of household members (other than the head) in employment. As outlined in the descriptive statistics, in many households the head was the sole breadwinner. Traditionally, wives are expected to take care of the household and children and are not supposed to be in employment. In addition, the descriptive statistics suggest that many adult male and female household members were struggling to find a job. Conversely, household members in employment had a strong positive effect on households' per-capita income.

One of the main reasons for the high unemployment rate among household members is the lack of human capital. According to GATSTAT (2019b), 73% of employed people in Saudi Arabia hold a university degree, among whom 7.4% hold a postgraduate degree. Only 0.8% of employed people are illiterate, 3.7% have a primary school education, 10% have finished secondary school, and 11% have completed high school. Comparing the level of education of Saudi nationals who have managed to secure a job with that of the poor, as described in the previous section, revealed that the lack of education is a prevailing concern. Beyond the lack of education, the literature also identified other causes for unemployment, including competition from low-paid migrant workers, cultural barriers preventing women from working in mixed-gender environments, and/or the view that certain professions are degrading or shameful for nationals (Bosbait & Wilson, 2005; Al Dossary, Rahman, & Aina, 2006; Al Hamad, 2014).

Health, Social Capital, and Personal Attitudes

Contrary to expectations, the health of the household head and the number of unhealthy household members had no significant impact on poverty. This could be because in Saudi Arabia, access to health care is provided to all citizens free of charge.

By contrast, social capital, measured as the relationship with immediate and extended family members, significantly reduced the odds of poverty. This was because households with stronger family connections were more likely to receive financial support from family members. However, households mainly received help from family members when their income was exceptionally low. In this sense, the family acted as insurance in times of special hardship. In addition, social capital might provide indirect financial benefits. In particular, family

members might help a person to secure a job or promotion. However, the social status of the family is likely to determine how valuable such connections are. Hence, poor households (whose extended family members are also more likely to be poor) might benefit less from social capital than wealthier households, whose extended families are also more likely to be wealthy and occupy high-ranking positions in society. This concept of social capital in Arab society can be linked to the Arabic concept of '*Wasta*'. This is similar to the idea of nepotism and can help a person to find a job even if it is above their current qualification level (Harbi, Thursfield, & Bright, 2017; Thompson, 2019).

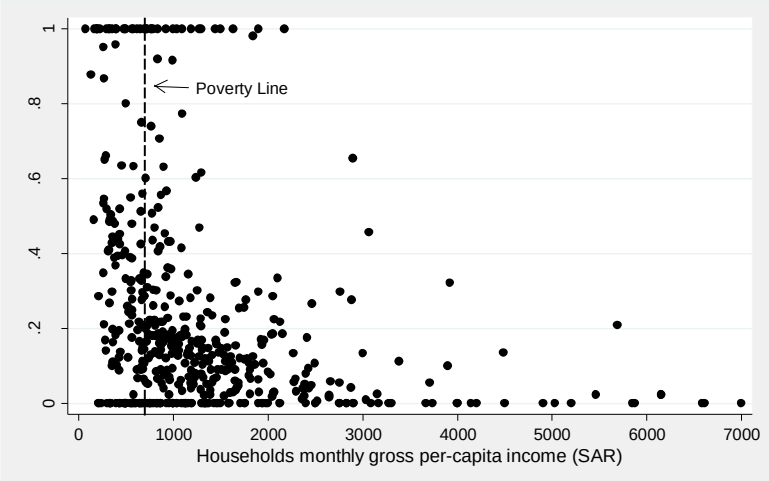
Bedouin families, who are all considered tribal, had stronger family connections (Kendall tau b = −0.0857, p = 0.0402, highlights the correlation between being Bedouin and the strength of family connections). Nevertheless, in the logit regression model, being Bedouin was shown to have no effect on poverty. It may be the case that the positive effects of stronger family connections were offset by other factors. One concern is that traditional strong family ties are weakening (Thompson, 2019), a reason for which is thought to be internal migration. Due to urbanisation, many individuals have become internal migrants in Saudi Arabia (Basha, 1988; Al Bassan, 2011). However, in the sample, there was no correlation between weak family connections and internal migration (Kendall tau b = 0.0139, p = 0.7405). Moreover, on average, internal migrants had lower incomes than non-migrants; however, this difference was no longer significant after adjusting for the education levels and family sizes of households.

Finally, the risk and time preferences of household heads were not significantly correlated with poverty.

5.2. Social Welfare and the Poverty Head Count Ratio

Having examined the reasons why household are not generating an income above the poverty line by themselves, the focus now shifts to the ability of the social welfare system to lift households out of poverty. In general, social welfare payments lifted 33% of the poor households out of poverty (less than 700 SAR). However, 14% of the poor households did not receive any social welfare payments and the remaining 53% did not receive enough social welfare to escape poverty. As Figure 3 indicates, some of the poorest households are excluded from social welfare payments, despite other households with a similar income receiving almost 100% of their income from social welfare.

Figure 3: Share of income from social welfare payments compared to total income



Source: Own socioeconomic household survey

Several reasons can be derived for the exclusion of certain poor households. First, some households might have felt ashamed to apply for social welfare or may have been unaware of how to apply. Illiteracy (combined with the fact that many of the applications have to be conducted online) could have been a barrier for some households, although this relationship was not statistically significant. Second, Saudi nationals without a national ID card are not able to apply for social welfare or hold a formal job. Of the households in the research sample, 8.6% reported having issues with their national IDs. This could hinder them in their efforts to obtain employment and social welfare payments. Indeed, having no ID cards had a statistically significant negative impact on households' likelihood of receiving social welfare payments (Pearson Chi2 = 7.357, p = 0.007). Third, female-headed households whose husbands have abandoned them without a divorce might not immediately receive benefits, as the women first have to raise their cases in court. However, no significant relationship in this regard was found. However, it was found that women whose husbands were in prison were statistically less likely to receive social welfare (Pearson Chi2 = 3.587, p = 0.058), despite being eligible. Indeed, there is perhaps a certain stigma attached to applying for social welfare payments under these circumstances.

By contrast, some of the highest earners received social welfare payments. This could suggest that some higher-income households provide inaccurate information in their applications, as they are apparently still able to obtain such benefits.

5.3. Poverty Gap

Thus far, the data analysis has focused on why a household is above or below the poverty line, but not on the intensity of poverty. This subsection studies the depth and severity of poverty by analysing the poverty gap. In Table 4 it is clear that all the factors found to determine the incidence of poverty also determine the depth of poverty (measured through the poverty gap). Likewise, almost the same factors explain the severity of poverty (measured through the squared poverty gap). The only exceptions are the age of the household head and the number of male adult household members; which have no impact on the severity of poverty. Although male household members might struggle to prevent the family from falling into poverty, they can prevent the family falling into severe poverty. Unlike female household members, male members have more access to low-paid employment. Even if the male member cannot find formal employment, he might always be able to find some form of informal employment, such as selling items on the street or helping out neighbours. Similarly, on average, younger household heads have a lower income than older household heads; however, household heads of all ages are equally able to prevent the family from falling into severe poverty.

The social welfare system plays an important role in reducing the overall depth and severity of poverty. Although the poverty gap index excluding social welfare payments (measuring the depth of poverty) stood at 0.22, it declined to 0.10 when such payments were included. Likewise, the squared poverty gap index (measuring the severity of poverty) changed from 0.16 excluding social welfare payments to 0.05 including social welfare payments. For a detailed breakdown of the poverty gap excluding and including social welfare payments, see Figure A.7 in the appendix. Nevertheless, social welfare has not managed to entirely eradicate relative poverty. In order to lift the remaining households out of poverty, the social welfare programme would need to pay an extra 11 billion SAR per annum, or 0.4% of 2019 GDP (GASTAT, 2019c). This estimate is based on an average remaining poverty gap of 231 SAR per person per month and an estimated 4.1 million Saudi nationals in poverty (Sullivan, 2013; Koontz, 2015; GASTAT, 2017). However, a key difficulty in this regard is to ensure that the money is actually reaching the poor. Alternatively, the existing social welfare system could be replaced with a universal basic income. Paying all 20 million Saudi nationals (GASTAT, 2017) 700 SAR per month would cost 168 billion SAR, or 6% of 2019 GDP.

Table 4: Tobit model estimates of the poverty gap

	Poverty Gap		**Poverty Gap ^2**	
	Coefficients	Std. Error	Coefficients	Std. Error
Household Demographics				
Age of Household (HH) Head	-0.016*	0.008	-0.007	0.008
Age of HH Head ^2	0.002**	0.0001	0.0001	0.0001
Gender of HH Head	0.273***	0.057	0.269***	0.051
Members (Ages 0–18)	0.050***	0.009	0.032***	0.008
Male Members (Ages 19-60)	0.032**	0.016	0.023	0.014
Female Members (Ages 19-60)	0.042**	0.018	0.033**	0.016
Members (Ages 60+)	-0.056	0.067	-0.056	0.061
Multiple Wives	-0.411***	0.151	-0.277**	0.136
Additional Dependants	0.016	0.014	0.012	0.013
Ethnicity				
Bedouin	0.025	0.042	0.029	0.038
African Descent	0.106**	0.050	0.107**	0.045
Human Capital				
Years of Education HH Head	-0.036***	0.005	-0.027***	0.005
Average Years of Education Adult HH Members (Ages 19-60)	-0.019***	0.005	-0.016***	0.005
Economic Factors				
Head Unemployed	0.553***	0.064	0.589***	0.057
Share of HH Members Employed	-1.326***	0.169	-1.237***	0.156
Health				
Head Unhealthy	0.029	0.072	0.051	0.065
Number of HH Member Unhealthy	0.049	0.048	0.043	0.043
Social Capital				
Family Relationships	0.047***	0.018	0.040**	0.016
Personal Attitudes				
Risk Taking	-0.004	0.006	-0.007	0.006
Patience	-0.002	0.006	-0.001	0.005
Observations	496		496	
Pseudo R^2	0.501		0.549	

Note: * P<0.10, ** P<0.05, *** P<0.01.

6. Conclusions and Policy Implications

This paper analysed the causes of urban poverty in Saudi Arabia. It found that the lack of human capital is a major determinant of poverty. Consequently, the observation that members of poor households accrue fewer years of education than non-poor households is a major concern. Potentially, a vicious circle may be created between poverty and human capital. The second major poverty determinant is unemployment. Unemployment is particularly high among household members (excluding the head) with a self-reported unemployment rate of 50% among the adult household members. Aside from human capital and unemployment, a large family size increases the risk of a household falling into poverty. Traditionally, the male-household head is supposed to be the sole breadwinner of the family, supporting his wife, children, and adult dependants (most commonly parents and siblings). Therefore, the larger the household, the greater the number of members that have to be supported by just one

breadwinner. Female-headed households were found to be particularly vulnerable to poverty due to women's traditional roles as the mother and caretaker of the household. Likewise, being of African descent increased the risk of a household being poor. Moreover, social capital (defined as the household heads relationship with his immediate and extended family) had a positive impact on households' welfare. By contrast, health, personnel attitudes, and being of Bedouin origin were not found to be correlated with poverty. Furthermore, it was found that the social welfare system is able to reduce the occurrence, depth, and severity of poverty. Around one third of poor households were lifted out of poverty by social welfare support. However, around 14% did not receive any support. In particular, households without a national ID card were often excluded.

Based on our findings, several policy implications can be derived. First, educational support initiatives should be made available to school and university students from disadvantaged families. To bridge the gap in education between poor and non-poor people, both financial and non-financial support should be considered. Increasing levels of education would also long-term help Saudis from poor families find a job and would thus reduce the level of unemployment. However, it would take time for the increase in human capital to bear fruit. Therefore, the authorities should increase the number of low-skilled jobs available to citizens. The government has already introduced one initiative along these lines – the 'Nitaqat' programme ("Saudisation programme"). This sets quotas for the percentage of Saudi nationals who have to be employed in each sector. Identifying additional sectors for increased "Saudisation" could immediately help the poor to find a job. Moreover, strengthening the role of women will need to form an integral part of poverty reduction in Saudi Arabia. Indeed, increasing women's participation in the workforce is a key aspect of 'Vision 2030'; hence the authorities have implemented new regulations to support women in the labour market. These include allowing women to drive and hold management positions, as well as antidiscrimination laws in the labour market. Increased female participation in the labour force would be beneficial for both male and female-headed households. Given that large family sizes were found to be a determinant of poverty, in addition to encouraging more women to work, educational campaigns could help to limit the number of unplanned pregnancies and reduce the financial burdens on households.

It will take time for all of the above policy recommendations to change the lives of poor Saudi households. In the meantime, additional financial support from the government would provide them with more immediate benefits. However, a key challenge is to identify the households

who are eligible in order to minimise inclusion and exclusion errors. A first step to including more households in the social welfare system would be to address the fact that a small number of households have no official national ID card. Without this, household members struggle to seek formal employment or claim social welfare payments. Hence, solving this issue would be extremely beneficial. Some of the households in the survey had recently managed to obtain IDs, while others were in the process of obtaining IDs. This suggests that the authorities are already addressing this concern. A further step towards addressing the issue of exclusion would be to replace the existing social welfare system with a universal basic income, which would pay all Saudi citizens a monthly allowance regardless of their financial circumstances.

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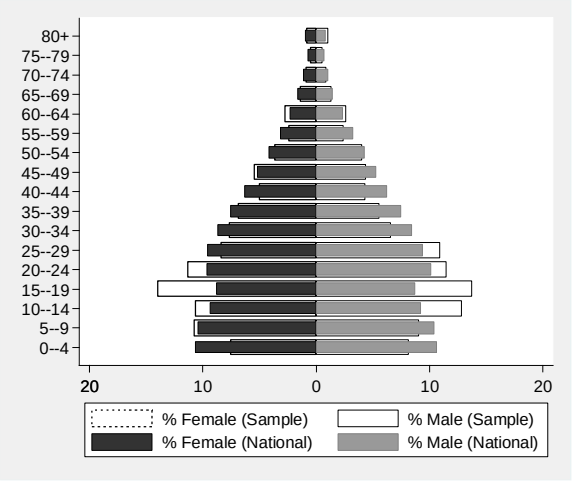
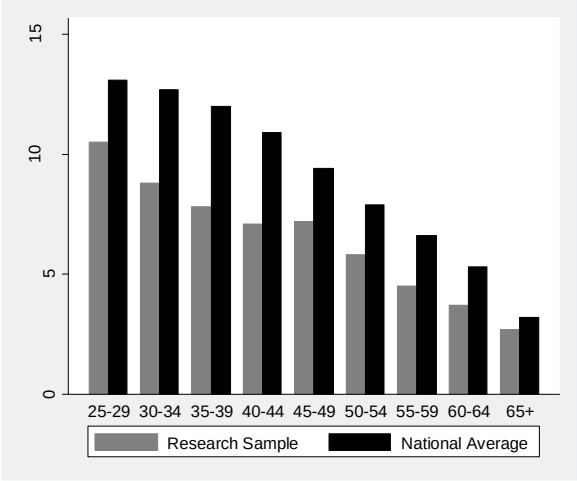
Appendix A: Additional Descriptive Statistics

Figure A.1: Population Pyramid



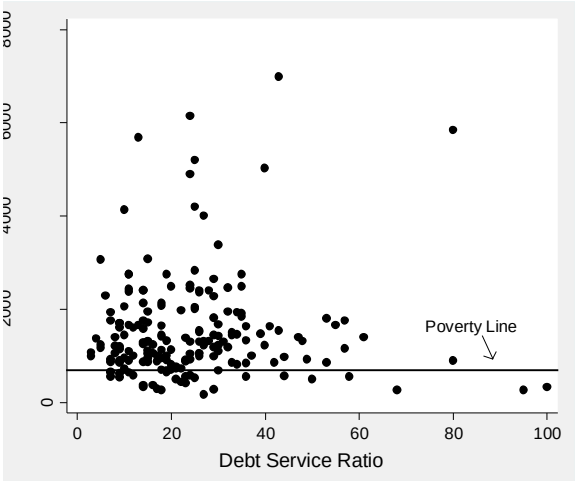
Source: Own survey and GASTAT (2017)

Figure A.2.: Average Years of Education



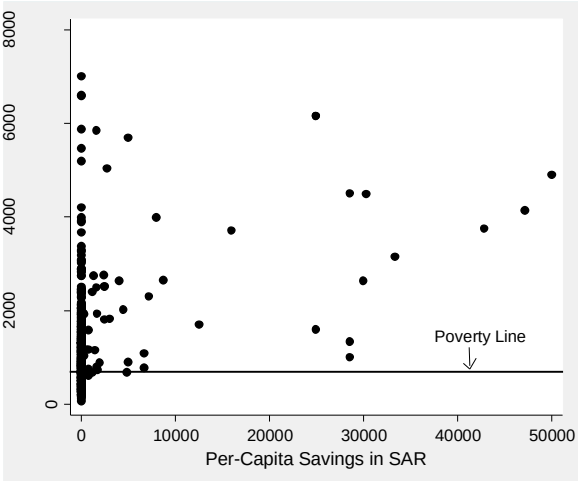
Source: Own survey and GASTAT (2017).

Figure A.3: Debt Service Ratio



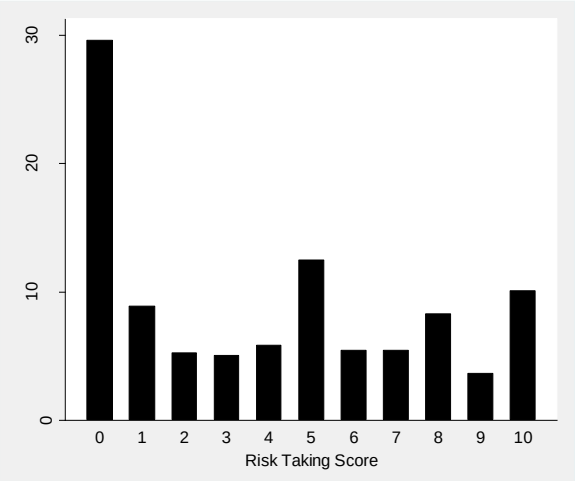
Source: Own Survey

Figure A.4: Savings



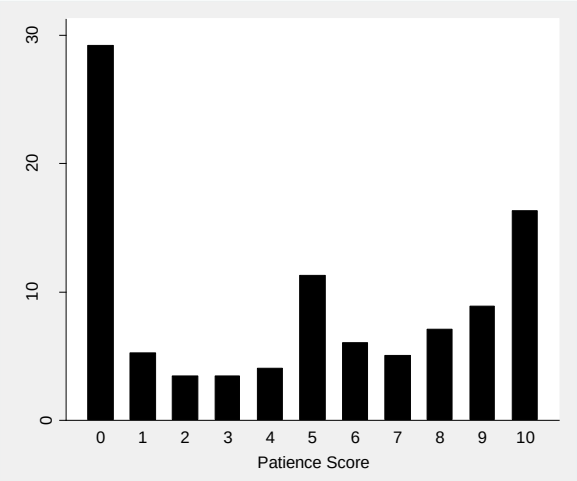
Source: Own Survey

Figure A.5: Risk Taking



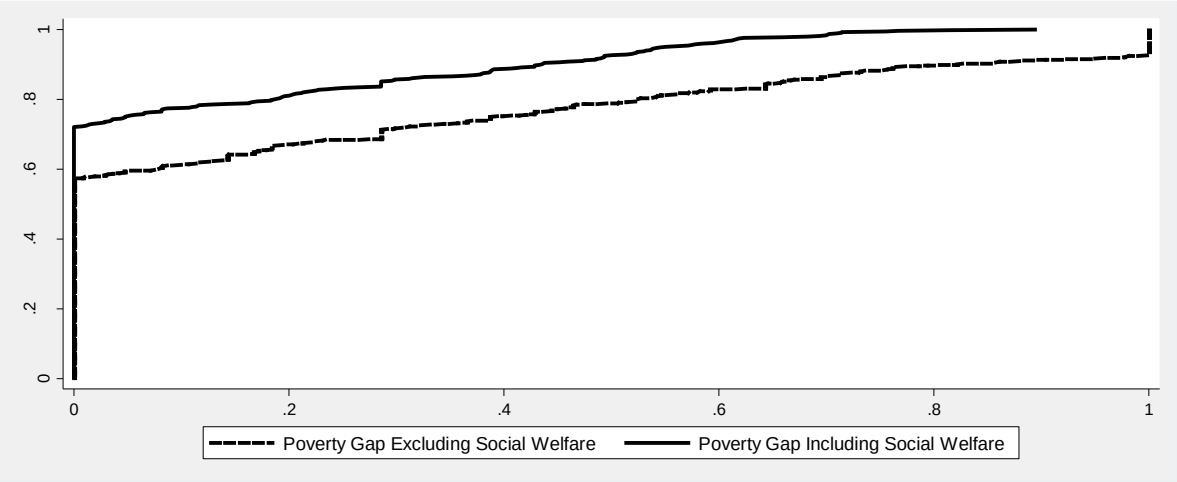
Source: Own Survey

Figure A.6: Patience



Source: Own Survey

Figure A.7: Poverty Gap



Source: Own Survey

Appendix B: Robustness Checks

Table B.1: Robustness Check Poverty Line (Marginal Effects)

Explanatory Variables	**Poverty Line (500)**	**Poverty Line (600)**	**Poverty Line (700)**	**Poverty Line (800)**	**Poverty Line (900)**	**Poverty Line (1,000)**	**Poverty Line (1,400)**
Household Demographics							
Age of Household (HH) Head	-0.025***	-0.034***	-0.042***	-0.033**	-0.037***	-0.029**	-0.009*
Age of HH Head ^2	0.0003***	0.0003***	0.0004***	0.0003**	0.0003***	0.0003**	0.0001
Gender of HH Head	0.258***	0.297***	0.296***	0.208**	0.178**	0.175***	0.033
Members (Ages 0–18)	0.065***	0.090***	0.120***	0.137***	0.155***	0.130***	0.054***
Male Members (Ages 19-60)	-0.001	0.036	0.101***	0.103***	0.101***	0.085***	0.048***
Female Members (Ages 19-60)	0.030	0.055**	0.104***	0.118***	0.118***	0.084***	0.043***
Members (Ages 60+)	-0.013	-0.039	-0.004	0.078	-0.001	-0.009	0.016
Multiple Wives	-0.171***	-0.287***	-0.359***	-0.224	-0.411**	-0.410*	-0.237
Additional Dependants	0.014	0.037*	0.025	0.036	0.046*	0.041*	0.026*
Ethnicity							
Bedouin	-0.006	0.003	-0.021	0.028	0.011	-0.021	-0.020
African Descent	0.073	0.115	0.160*	0.151*	0.020	0.045	0.047*
Human Capital							
Years of Education HH Head	-0.032***	-0.050***	-0.055***	-0.053***	-0.053***	-0.045***	-0.021***
Average Years of Education Adult HH Members (Ages 19-60)	-0.016***	-0.017**	-0.022***	-0.029***	-0.027***	-0.022***	-0.010***
Economic Factors							
Head Unemployed	0.610***	0.610***	0.534***	0.459***	0.374***	0.315***	0.100***
Share of HH Members Employed	-0.952***	-1.291***	-1.610***	-1.547***	-1.181***	-1.020***	-0.208***
Health							
Head Unhealthy	0.057	-0.007	0.024	0.010	0.052	0.081	-0.005
Number of HH Member Unhealthy	0.093*	0.033	0.038	0.042	0.065	0.018	-0.018
Social Capital							
Family Relationships	0.030*	0.062**	0.060**	0.039	0.042	0.038	0.009
Personal Attitudes							
Risk Taking	0.0004	0.003	0.007	-0.002	-0.007	-0.004	0.004
Patience	-0.009	-0.009	-0.0001	0.003	0.003	-0.004	-0.002
Observations	496	496	496	496	496	496	496
Pseudo R^2	0.522	0.481	0.461	0.436	0.450	0.423	0.400

Note: * P<0.10, ** P<0.05, *** P<0.01.